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ABSTRACT

This study was designed to acquire and synthesize research and development information regarding selection and evaluation of teachers which could be used by practicing administrators, teachers, and board of education members to improve school personnel practices. There was a systematic search of the literature, and questionnaires and interviews were used to collect information about the current practices of 67 school districts, 95 businesses, and 19 government agencies in all regions of the United States. Contrasts and comparisons were made from the data obtained and results indicated that school districts vary considerably in their practices, many of them are not implementing recent research findings, and in general they are not using practices which industry considers routine. There seems to be agreement that teacher selection and evaluation procedures should permit improved learning conditions for children and facilitate administrative decisions, should be cooperatively planned by teachers and administrators, should be understood by all personnel involved, and should be checked periodically for sources of errors. Six major interrelated trends emerged and the incorporation in a personnel system is considered not only possible but desirable. These trends include a systems analysis approach, management by objectives, external evaluation, and concurrent analysis of the results of product and process in a specific situation to obtain feedback for correction of individual problems. (MBM)

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Final Report

Project No. 9-0572
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THE SELECTION AND EVALUATION OF TEACHERS

AN INTERPRETIVE STUDY OF
RESEARCH AND DEVELOPMENT

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
OFFICE OF EDUCATION

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U. S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

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PREFACE

The Need for Study on These Topics

Why is it important to study the selection and evaluation of teachers? The answer is found in three ideas:

(a) independently considered, the selection of teachers and the evaluation of teachers each has an impact on the learning of school children; (b) selection and evaluation are related to each other in such a manner that the impact on learning of children is increased when the two processes interact effectively, and (c) current events in education indicate that there are forces affecting both of these processes.

Effect of Selection

In what way does selection of teachers affect learning of school children? The "fit" of the teacher and the assignment determines the types of activities in the classroom and the eventual learning of children. However, this "fit" is determined by much more than a final decision to place a teacher in a given setting, since the final choice is dependent on what has occurred in prior stages. The total selection process includes:

- determination of need, with an adequate specification which includes precise information on the quantity and quality of tasks required as well as the student learning expected;
- recruitment, which provides a sufficient supply of people capable of performing required tasks;
- selection, which is designed to insure a high probability that learning will occur in the classroom; and
- placement, which attempts to "fit" the person chosen to the peculiarities of a given assignment.

Every stage of the process affects the final placement of the teacher in the classroom, and the teacher in turn affects the environment of the school children.

Effect of Evaluation

How does evaluation affect classroom learning? Basically, evaluation provides information for making corrections if goals are not being accomplished. For example, if adequate classroom learning is not occurring and/or if designated procedures are not being followed, evaluation of teachers

does two things: (a) it indicates that something is wrong with either the procedures or the output, and (b) it provides diagnostic information which indicates the potential source of the difficulty. Therefore, evaluation provides the basic information necessary to correct problems. Usually, correction occurs through supervision and inservice training. If classroom learning goals are being met, evaluation verifies this and reinforces continuation of similar classroom activities. Under these circumstances, evaluation is the means for maintaining a given level of procedures and learning outputs.

Interaction Effect

In order to improve the operation of an organization, some people place heavy emphasis on the selection of personnel; others stress the training of people once they are on the job, inasmuch as jobs change rapidly and people adapt to these changes. There is evidence that some teachers respond better to on-the-job training than others (Short: 1968), and this suggests the need to select people who are most capable of performing the initial tasks required and who are most likely to learn from the supervision and inservice training which will be provided.

Since evaluation is the basis for this supervision and training, there is an obvious interaction of selection and evaluation. Learning of students is somewhat improved by good teacher selection procedures; likewise, evaluation of teachers improves classroom instruction; however, classroom learning is facilitated most by selection of teachers who respond favorably to evaluation and supervision procedures. In addition, this interaction between selection and evaluation suggests the desirability of using the same criteria for selection that will eventually be used for evaluation, and of providing information from the evaluation process that will help to correct errors in the selection process.

Current Events

What events are presently occurring on the educational scene that make the study of selection and evaluation procedures important? First, the supply-demand ratio is higher than in previous years. When the supply of teachers is low, a district must increase its activities in the recruitment phase of selection; whereas when the supply is greater than the demand, the selection and placement phases must be emphasized. Nationally, the present supply-demand ratio warrants increased attention to selection and placement.

Second, there is much discussion among educators and citizens' groups of education's responsibility to the

public for accomplishment of goals. Sometimes this pressure for "accountability" is simply a guise for reducing taxes for school support; but often it represents a sincere desire to know what tax money is purchasing and to improve the educational system so that children learn more effectively. To know whether certain goals are being accomplished and what each teacher is contributing to the learning of children, it is necessary to evaluate teachers. To evaluate teachers fairly, it is necessary to use more effective evaluation procedures than those predominantly used in the past. Hence, the current increased interest in evaluation of teachers.

Intended Audience

This report is intended for use by people engaged in selecting and evaluating teachers. Because of the diversity of the audience that will be interested in this report, it is unlikely that this study will serve all people equally well. However, the report has been organized and written with the intent of facilitating its use by a wide spectrum of readers.

Organization of Report

The report begins with a summary chapter. Very little technical background is needed to read this initial chapter, and almost anyone interested in the selection or evaluation of teachers should have little difficulty with the concepts. The first chapter includes an overview of findings from current practices in education, governmental agencies, and industry as well as findings in the research literature. However, its primary intent is to provide applications for and implications of the research findings so that the ideas can be quickly implemented in school situations. Some readers may want to read only the first chapter, or only those sections of the first chapter which concern them.

Chapter 2 is included for those who are interested in the procedures used to collect and analyze the information used in the report. It is intentionally brief, and persons interested in additional specific information regarding procedures are encouraged to write the Project Director.

Chapters 3 and 4 furnish detailed background information regarding selection and evaluation processes. Some of the conclusions stated in Chapter 1 are elaborated and documented.

Chapter 5 is a summary of what the research team considers to be significant trends or themes in the information acquired. This chapter is an attempt to view the information from a somewhat different perspective in order to determine how the ideas can be unified. The terminology of this final chapter may not be as familiar to some readers as that of the first chapter, and the concepts are somewhat more complex than those in Chapter 1. However, readers who are interested primarily in applicational material may still find Chapter 5 of interest, since it does provide a different viewpoint to what is happening in selection and evaluation of teachers. Those who find Chapters 3 and 4 stimulating are also likely to find Chapter 5 of interest.

Several appendixes are provided in addition to a bibliography. The practitioner, the Board of Education member, and the student of administration should all find the bibliography beneficial as a source of information regarding problems of selection and evaluation of teachers.

Topic
Outline

The ideas within the chapters are organized around topics, and the outline of these topics can be found in the Table of Contents. Generally, the material regarding selection is separated from the material regarding evaluation, although the development of the ideas is somewhat parallel.

A number of ways of organizing the material were considered. For example, because of the parallelism of ideas, the processes of selection and evaluation might have been consolidated rather than discussed separately. This would have increased the reader's awareness (at a rather general level) of the similarity of the two processes, but would have made it more difficult to discuss specific differences. Or, had the ideas been organized around sources, e.g., practices in business, practices in governmental agencies, practices in education, research in behavioral sciences, research in education, such an organization would have clarified how many ideas were acquired from various sources, but would have offered very few additional advantages.

The present organization allows a reader to quickly find ideas of interest to him. For example, if a new principal is interested in information regarding recruiting teachers, he will find a summary of this information in Chapter 1. If he desires more detailed information, he can look at a single location in Chapter 3. The organization, then, is designed to facilitate the search for information by the practitioner who is likely to be using the report.

Format

The format of the report is also designed for easy use by the practitioner. In addition to the subdivisions within each chapter, the format includes the following:

Key ideas are enclosed in blocks, written in italics.

At the end of the key idea statement within the blocks, sources of information are identified according to whether they initially came from: (a) research literature, (b) viewpoints expressed in the literature, or (c) practices currently occurring in either industry, education, or governmental agencies. For example (research: Jones, 1941), or (practice: industry).

Key ideas are categorized according to whether they are suggestions, notes, cautions, or conclusions.

Arrows (⇒) or dots (●) are used to draw the reader's attention to listings, headings, or substantive ideas.

Within the body of the text, references are made to other sources of information by citing the author and the data of the publication, e.g., (Brown, 1962). The complete information on that source can then be found by referring to the bibliography beginning on page 216.

Acknowledgements

To acknowledge all of the assistance and encouragement received during a project of this type is difficult, and any process of selecting acknowledgement runs the risk of omitting substantive contributions. Recognizing this risk, I wish to express appreciation to the following:

- The four research assistants on the project (Sidney Micek, Donald Osborne, Kent Stephens, and Catherine Weber) were major contributors of ideas, and their diversity of background and willingness to work greatly influenced the final product.
- The Advisory Committee assisted by providing:
(a) ideas regarding the initial search procedures, and (b) reactions to a preliminary report. Both

contributions helped the research team to focus on ideas that are most relevant to practitioners. The members of the Advisory Committee were:

Dr. Chester Babcock	Assistant Superintendent, Division of Curriculum and Instruction, Olympia, Wash.
Dr. Larry Barnett	Head, Teacher Personnel, Center for Urban Education, New York, New York
Dr. John Codwell	Deputy Director of Education Improvement Project, Southern Association of Colleges and Schools, Atlanta, Georgia
Dr. Con Cremer	Personnel Supervisor, Portland Public Schools, Oregon
Dr. William Ellena	Associate Director, American Association of School Adminis- trators, Washington, D. C.
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Mrs. Fred Radke	Member, State Board of Education, Port Angeles, Wash.
Mr. Dallas Shockley	Executive Director, Seattle Teachers Association, Wash.

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Dale L. Bolton
 Seattle, Washington
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SUMMARY

The general purpose of this study was to acquire and synthesize research and development information regarding selection and evaluation of teachers in such a manner that this information could be used by practicing administrators, teachers, and board of education members to improve school personnel practices.

There was a systematic search of the literature in the behavioral sciences on selection and evaluation procedures. Questionnaires and interviews were used to collect information about current practices of school systems, businesses and industries, and governmental agencies. Questionnaires were sent to 26 of the 40 largest school districts in the U. S. plus three suburbs of each of these districts; questionnaires from 67 districts were analyzed and interviews were conducted with personnel in 31 of the 67 districts. In addition, questionnaires were sent to 95 businesses and 19 governmental agencies; questionnaires were analyzed from 41 organizations and interviews were conducted with 16 of them. School districts and businesses represented all regions of the U. S.

Information from the written research and development reports, questionnaires, and interviews were organized so that contrasts and comparisons could be made. A preliminary draft of this report was presented to an Advisory Committee (consisting of practitioners and researchers) for criticism. Following the critique, modifications were made to assist in the application of the ideas to current personnel problems in schools.

Results of the study indicate that school districts vary considerably in their practices, many of them are not implementing recent research findings, and in general they are not using practices which industry considers routine.

There seems to be agreement that:

- The reasons for establishing comprehensive and systematic teacher selection and evaluation procedures are to improve learning conditions for children and to facilitate administrative decisions.
- Personnel procedures are most effective when they are cooperatively planned by teachers and administrators.

- All personnel who are involved in selection and evaluation should understand the purposes, the nature of procedures to be followed, and roles of the various people involved.
- Training in the specialized tasks of selection and evaluation increases the effectiveness of personnel involved in these tasks.
- In order for selection and evaluation procedures to continue to serve their purposes, they must be checked periodically for sources of errors.

Six major trends or ideas seem to permeate both research and practice in the selection and evaluation of teachers:

- Examination, by a systems analysis approach, of the functional relationships among selection, evaluation, and supervision of teachers prevents isolation of any one function.
- The current complex models of selection and evaluation of teachers, incorporating criteria that are multiple, dynamic, and specific to the situation are more realistic and useful than prior models.
- "Management by objectives" can clarify organizational goals and show how these goals can be subdivided for action by work units and individuals. Accountability is facilitated by these procedures.
- External evaluation can stimulate self evaluation, which leads to more continual diagnosis of individual behavior.
- Concurrent analysis of the results of product and process in a specific situation can be used to obtain feedback for correction of individual problems.
- The manner in which information is managed, i.e., the acquisition, processing, and analysis and interpretation of information, will affect the quality of decisions made in the selection and evaluation of teachers.

Obviously, these general trends or ideas are inter-related; incorporation of all six in a personnel system is not only possible but desirable.

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Chapter 1

SUMMARY OF IMPLICATIONS AND APPLICATIONS OF RESEARCH AND PRACTICE IN SELECTION AND EVALUATION OF TEACHERS

The estimated number of teachers in U. S. classrooms during the spring of 1970 was just slightly less than two million; the number of teachers hired for the 1970-71 year is estimated to be approximately 240,000. For each teacher hired, a number of others are considered and rejected; each teacher in the U. S. is evaluated by someone, either formally or informally, and decisions are made based on each evaluation.

⇒ CONCLUSION

*Literally millions of decisions concerned with selection and evaluation of teachers are being made annually in the U. S.; each decision has a potential impact on school children.
(research: NEA Research Report, 1969-R14)*

In order for teachers to make a maximum contribution to the education of children, they should be: (a) selected and placed in situations best suited for their talents, and (b) evaluated and provided with feedback relating to specified goals.

Suppose you had the responsibility of selecting and evaluating teachers in a school district. How would you approach the task? How would you make certain that you knew how many teachers to hire and how to recruit them effectively? Whom would you involve in determining what is effective teaching? How would you organize for collecting and analyzing information? What strategies would you use for making decisions? What procedures would you use for making alterations in the system which presently exists?

This chapter examines these types of questions by reviewing some of the results of research and practice and suggesting some implications and applications of these results. The general intent is to assist practicing administrators, teachers, and board of education members to apply research and development results to the processes of selection and evaluation of teachers.

Need for
Information

Educational administrators are in an advantageous and unique position to develop procedures which will use the talents of teachers and other professional personnel maximally. Therefore, they should be following the best practices available for selecting and placing teachers in situations best suited to their talents and for evaluating the performance of teachers with relation to specified goals. Yet, teacher selection and evaluation practices of many districts fall far short of the innovative practices of business, industry, governmental agencies, and some of the better school systems.

One reason for this lag is unawareness of the total scope of promising practices that can be implemented within the constraints of local situations. In addition, educational administrators are often unaware of the extensive research in the behavioral sciences, business, and governmental agencies that is directly pertinent to the selection and evaluation of teachers. Modern personnel practices account for much of the adaptability and rapid progress of business organization, and these procedures should be applied to education where practicable and appropriate.

Synthesis
Desirable

Another reason for lack of innovation in the selection and evaluation of teachers in some districts is the absence of a synthesis of information which relates the two processes so they can be examined simultaneously. Since validation of the selection process depends on data collected in the evaluation process, the standards of teaching success in both should be compatible. Also, the decision to place a teacher in a given position is a part of the selection process which involves specific evaluation and supervisory procedures. For new teachers, the probationary period is an extension of the selection process, during which additional data (collected for evaluation) are available for making a decision to retain, reassign, or release the teacher. All of these interrelationships indicate that it is desirable to study the two processes concurrently.

In this chapter, results from research and current practices are made available in a format that will assist practitioners in changing procedures. The chapter is organized in two parts: selection of teachers, and evaluation of teachers. Each part has an abstract, subdivisions presenting the significance or purpose of the item, findings or conclusions, and implications or suggestions for application.

⇒ ABSTRACT: SELECTION OF TEACHERS

Unless selection procedures are well organized and executed, school districts will not attract the number and type of applicants desired or they will hire ineffective teachers. Therefore, the purpose of a selection procedure is to develop adequate ways to:

- *determine specific teacher needs in terms of number of positions and the general nature of the positions*
- *determine specific teacher attributes for each position*
- *recruit desirable applicants by locating sources of supply and devising ways to attract applications*
- *collect and process data from written documents, tests, and interviews*
- *select and place the best-fitted applicants*
- *establish controls over the entire process to determine any sources of errors.*

Even with a large number of applicants, one cannot choose the best teachers without a good selection program; however, the possibility of selecting good teachers is greatly reduced when a district is unable to attract an adequate supply of applicants, since the output of a selection program (the teacher hired) is no better than the input (the applicant pool).

The information collected via written documents, tests, and interviews must be reliable measures of those attributes judged to be most important as predictors of successful teaching in specific situations. Further, this information must be analyzed and interpreted correctly if good choices are to be made. In order for a selection process to continue to function smoothly, it must be checked periodically for sources of errors.

Determination of Teacher Needs

Purpose

Prior to initiating a recruitment campaign for new teachers or any other selection activities, it is necessary to specify how many and what type of teachers will be needed. The purpose for doing this is to indicate resources needed to accomplish goals of the school system.

Present Practices

Presently, teacher needs are generally determined differently from personnel needs in industry. Industrial needs are based on an annual plan of operation which specifies goals and resources needed to accomplish these goals; teacher needs are usually based on some arbitrary pupil-teacher ratio or extrapolation from prior activities.

⇒ SUGGESTION

School officials should consider determining teacher needs by making an annual plan of operation based on:

- *a reexamination of goals*
- *a reexamination of means for accomplishing these goals*

Once the decision has been made to hire new teachers, it is then necessary for each principal to specify the number and types of teachers desired for his school. This may be done on a special requisition form which includes a brief job description to define special requirements of the position. The decision to approve a given position is usually made by central office personnel.

⇒ NOTE

A clear specification of desired teacher attributes assists those who do the recruiting and initial screening to locate and attract the type of teacher needed for a given position.

When Overhiring Occurs

Even with careful planning, there are times when overhiring occurs, i.e., when more teachers are hired than needed to accomplish the prespecified goals. When this happens, consideration should be given to the following

possibilities for increasing the long-range effectiveness of the system:

- establish special training sessions for people having difficulty or who need to acquire special skills
- reassign certain persons on the staff to accomplish special needs, e.g., research, materials development, planning, new policy development in a special area.

Although decision problems would be created in determining who should be involved in the special activities, this procedure is potentially more beneficial than simply modifying the pupil teacher ratio.

Determining Teacher Requirements for Specific Positions

In the preceding discussion, it was noted that a requisition form generally includes a brief description of special requirements for a position; this is beneficial both for recruitment and for initial screening of applicants. However, prior to making final decisions regarding teacher applicants, it is also beneficial to develop fully the teacher requirements for specific positions, which include a consideration of:

- situational factors which affect requirements
- development of a position analysis
- who should be involved
- problems of measurement

Situational Factors. The major situational factors affecting teacher performance are:

- pupil characteristics, including measures such as attitude, interests, abilities, motivation, morale, prior learning
- principal characteristics, including his orientation to change, ability and interest in helping teachers, human relations and organizational skills, decision-making style
- colleague characteristics, including general esprit, attitude toward newcomers and change, willingness to help new teachers and to plan programs cooperatively.

Adaptability
to
Situations

The adaptability of teacher behavior to a specific situation is important for production of desired pupil outcomes. However, this adaptability is not exhibited in all teachers. Therefore, the number of different situations in which a teacher is effective depends on that teacher and his adaptability. It becomes necessary, then, to describe the general behaviors to be met by all teachers in a given school district, yet allow for individuality of the persons involved. The situation must be described fully enough that judgments can be made to determine whether a candidate is likely to meet the general requirements and adjust to the specific requirements of the position.

One situational factor which must be considered is the degree of change which is occurring in a situation and how much change is to be expected. It is true that jobs change men, but it is also true that men modify jobs; both of these factors imply there is need to examine how the last person in a position changed it and what effect the position had on the person. Such information is beneficial in making judgments regarding individual applicants, since ignoring unique situational factors tends to reduce effectiveness of predictions.

Purposes
of
Position
Analysis

Position analysis. The purpose of a specific position analysis is to gather and analyze data about the nature of the position so the personnel worker can:

- identify what is important to teaching success-- in that situation
- identify how these important aspects can be measured
- communicate to prospective new teachers the major and minor aspects of the position
- infer what information might be collected to help predict the success of the applicant if selected for the job.

The basic question to be answered is: "What must an individual do, what must he accomplish, and what characteristics must he possess in order to be a successful teacher in this position?" The information presented in this section deals primarily with what is considered to be important in teaching and what information is likely to predict these important aspects.

What is
Important?

In teacher selection, the value of teacher performance is judged in terms of behavior of the teacher or result of his behavior. In either case, there is an attempt to predict indications of success.

If one is concerned with the result of teacher behavior, he must decide what aspects of student gain should be used. Should one consider habits of work, modes of thinking, or merely the knowledge attained? Many people will be interested in all of these; but if this is not specified, selection procedures can lead to poor results.

Some people have attempted to find ultimate and unchanging indicators of successful teaching which apply to all situations. This search has been almost universally unsuccessful, due to the fact that:

- situations differ
- situations change (and therefore the required tasks change)
- the nature of teaching is very complex
- many different aspects of a job contribute to the success of a person on the job
- not all of these aspects of the job are related to each other
- different procedures can sometimes accomplish the same results.

⇒ SUGGESTION

Because of the complex and changing nature of each teaching position, an accurate and detailed position analysis (developed for each position) aids in making decisions in the selection of teachers.

Include
in the
Position
Analysis

Such a position analysis should include:

- the general nature of the position, including the broad goals of the system, the organizational structure of the system, and the general expectation of the teacher in and out of the classroom

- the static and dynamic features of the position, including what is important at the beginning, what is likely to change and what will affect these changes, the nature of the students, and how the position will be affected by other people
- the teacher behaviors required and desired, in the classroom and out of the classroom
- the teacher characteristics sought, including aptitudes, skills, social requirements, interests, and physical requirements.

In making judgments regarding which teacher behaviors should be specified for a given position, the following should be considered:

- A limited number of teacher behaviors should be identified.
- Behaviors should be able to be observed accurately by individuals other than the teacher, should be specified precisely, and should differentiate among teachers.
- The manner in which activities are organized, the choice of content, the types and sequences of activities, and strategies used in teaching are all means of producing effects on learners.

Information
Used to
Predict

As one studies the types of behaviors and the characteristics needed, there should be a conscious attempt to determine what variables will help to predict which candidates are likely to display these behaviors or characteristics. In doing this, the following should be considered:

- What information could be attained regarding the abilities of the individual? Are there indicators of his potentialities? What would help to predict later development?
- What kinds of experiences can be documented and what will various experiences indicate? Does a certain pattern of experiences indicate a long-standing predisposition toward certain behaviors?
- What information can be acquired regarding his human relations behaviors? How do others view him personally? Is he likely to get along with various types of people?

- What information can be acquired regarding his breadth of knowledge? How does such knowledge relate to the tasks expected of him?
- What is known about his aspirations? Is he interested only in a "job"? What is likely to motivate him on a long-range basis?

Involvement of people. Since who is involved in making decisions (regarding expected outcomes in a given situation and what behaviors are likely to precipitate those outcomes) is likely to determine not only how good the decisions are but also how satisfied people are with the decisions, it is very important to develop a clear strategy for involvement of people. Many times, such considerations primarily involve a determination of whether the principal or the central office personnel will decide on specific expectations. When building principals make decisions regarding criteria, there is likely to be much more diversity in characteristics being sought than when the central office controls the final determination.

Ideas to
Consider

However, the strategy for involvement of people should be much broader than simply indicating who makes the final decision, and the following points should be considered when determining what items will be included in determining teacher success and how much weight will be assigned to each item:

- parents can indicate what expectations they have for their own children
- students can indicate what motivates them and helps them to learn
- teachers can indicate behaviors desirable for a given position--and this can be done in collaboration with
- principals, who can indicate expectations for general teaching behaviors, out-of-classroom behaviors, general results of behavior
- specialists (e.g., consultants, supervisors, department heads) can indicate special skills needed for given content areas
- central office administrators can indicate general organizational expectations and long-term needs.

Advantages

Involving many people in determining what is desirable in teaching positions is likely to help determine teacher behaviors and student outcomes in terms that are relevant to the specific situation, i.e., the involvement of many people develops acceptable or socially valid standards for teaching success. The criteria for success should be acceptable to a wide variety of people who are affected by teacher behaviors, including students, parents, teachers, administrators and other members of the community.

However, when acceptable validity is determined, it should not be expected that this description of success will be maintained over a long period of time. There are indications that these specifications change rather rapidly due to changing student and parent populations, societal changes, and changes in conditions of work due to new technology and professional developments.



CONCLUSION

Specifications of desired student outcomes and teacher behaviors should be reviewed frequently with a variety of people affected by teacher behaviors.

Problems of measurement. The problems of measuring student output are discussed much more thoroughly in texts concerned with tests and measurements in education and psychology, and no attempt will be made to cover this topic here. However, certain problems encountered in measuring student growth are worth considering at this point.

Observing Teacher Behavior

When measures of student growth are what is desired, what is the justification for observing teacher behavior, student-teacher interaction, or of using student perception of teacher behavior? Perceived teacher behavior intervenes just prior to pupil change; therefore, it is something which might justifiably be expected to affect that change. Based on this view, much research has been done in the past ten years on developing observation schemes which will accurately measure certain aspects of teacher behavior and of classroom interaction. In developing such procedures, there is an emphasis on:

- objectivity, which can be determined by using different observers at the same time

- consistency, which can be checked by asking the same observer to observe the same phenomenon at different times (this requires recording the phenomenon on audio or TV tape, or filming it)
- accuracy, which involves using different observers at different times (with the same observable sets).

In any case, it is necessary to develop not only an ability to measure, but a willingness to measure teacher behavior as well. Unless those responsible for measuring teacher behavior are actually willing to spend the time necessary to measure accurately and reliably, the development of procedures is futile.

Criticisms

Although observation techniques have been developed considerably during the past years, they are still criticized by many because:

- There is no general consensus of what good teaching is
- The situation is artificial with an outside observer
- Adequate observation is expensive.

However, each of these criticisms has been adequately met with counterarguments, and observation of classroom procedures is the best route to adequate diagnosis of why certain procedures yield specific results in local situations. Without adequate information regarding process in the classroom, teachers may make changes when they are not warranted or not make changes when they are needed.

What to Observe

What should be observed in a classroom? It is generally agreed that the following should be observed:

- teacher characteristics
- content being taught
- teaching strategies which are: (a) specific and unique to the content, and (b) general, i.e., not specific to the content being taught.

⇒ NOTE

The content being taught and the teaching strategies being used may be determined by the behavior of the teacher; however, the teacher characteristics must be inferred from the behavior exhibited.

The last note is concerned with the distinction between patterns of instruction being used by a teacher and the teacher as a person. Notice that both depend on observation of the behavior of the teacher, but one must be inferred while the other is observed directly.

In considering observation procedures, it should be emphasized that intermediate criteria (such as teacher behavior, which intervenes just prior to pupil learning) are significant only as they are relevant to the ultimate goal (generally some change in behavior, or eventual behavior, of students). What is ultimately desirable must always be determined on rational grounds, i.e., via judgment of some individual or group.

Recruitment of Teachers

What is
Recruitment?

Recruitment of teachers includes all activities that are used to encourage teachers to apply for positions. Many people misuse the terms "recruitment" and "selection" by considering them as synonyms; for example, when they say, "There is no teacher selection problem now--there are plenty of teachers available," what they really mean is that the aspect of recruitment (which is only one part of selection) which requires that an adequate quantity of applicants be available does not appear to be a problem. Sometimes these people even overlook other problems of recruiting, e.g., adequate quality of teachers and number of teachers with special skills or background.

When a surplus of teachers exists, school systems emphasize rigorous selection procedures. However, when there is a shortage of candidates, school systems must develop and maintain an effective recruitment program as a prerequisite to good selection.

Effective
Recruitment
Strategies

In order to attract an adequate number of well qualified teachers, it is necessary to establish good public relations procedures throughout the selection process. Since

applicants form definite impressions and may become "recruiters" for the school system even though they are not hired, there should always be an effort made to show potential applicants that the district has something to offer now, in the near future, and in long-term career goals. They should be made aware of the professional possibilities for growth and successful fulfillment of goals. In addition, throughout the selection process, one should:

- show consideration for all applicants and avoid any practice that might create ill will
- not create false hopes
- develop ways of saying "no" that are sincere and yet as unobjectionable as possible
- show interest in professional development of applicants and in their being placed in the position which is most advantageous to them.

Guidelines

Specific guidelines which districts have found to be helpful in recruiting teachers include:

- Devise ways to help placement directors get acquainted with the school system
- Provide personnel and curriculum materials to college and university classes as a means of getting students acquainted with the school system
- Develop ways to contact and communicate with experienced teachers
- Use multiple media teaching procedures to acquaint applicants with details of the system
- Explore unusual advertising means to attract specialized personnel

Cost Analysis

Some recruitment procedures cost more than many school districts want to spend on this aspect of selection; however, industry generally spends considerably more than schools on recruitment and considers it money well spent because of reduction of turnover and higher productivity. The cost of hiring the wrong candidates can be higher in terms of supplementary training, wasted

salary, adverse public relations, and lost productivity than the cost of more extensive recruitment.

⇒ SUGGESTION

School districts should analyze the results of their recruitment programs as well as the costs. Increased initial costs may produce a more effective recruitment program which establishes better long-range results and reduces costs through smaller turnover.

Collection of Information

Sources of
Information

The primary sources of information for the selection of teachers include:

- written documents, including letters of application and inquiry, the résumé, application forms, recommendations, placement office materials, and certificates
- interviews
- tests, including paper and pencil, and situational-- such as those which require performance assessment in simulated situations.

Although many of these sources have proved to be beneficial to specific school districts and businesses, local school districts should conduct research to justify the use of any of these sources of information for predictive purposes in the local situation.

Sequence of
Information
Collection

The general sequence used in collection of information regarding candidates varies considerably from district to district and from business to business. This sequence is affected by policy regarding the degree of central office control of decision making. The functions of the central office and the school building personnel are different; for example, the central office personnel are responsible for coordination of the procedures used throughout the organization. If uniformity of procedures is desired, they must initiate procedures to produce this uniformity (however, this does not mean that they must collect all information). Building personnel, such as principals, are in a better position to relate to the

personal concerns of the applicants; consequently, they are involved at different times in order to perform functions related to their peculiar contributions.

If candidates are screened out of consideration before all information has been collected on them, i.e., if a "successive hurdles" strategy is used, selection instruments which provide rough screening of applicants should be used first and those which provide finer discrimination among candidates should be used in later stages of selection. Also, cost should be considered in determining sequence of data collection. For example, if an application form can be used inexpensively as a rough screen, the applicant pool can be reduced before using the more expensive technique of interviewing for a finer discrimination among applicants.

⇒ NOTE

There is a need for more definitive information on the costs of different data collection devices and their contributions to discrimination among applicants.

A Caution

When an item of information is used to eliminate an applicant, one should be certain that the predicted behaviors are actually necessary to the teacher's satisfactory performance; further, the behaviors should be necessary for initial work rather than behaviors which can be attained after the position is taken. For example, assume that extremely good organization is considered necessary for success in a particular position, and evidence from practice teaching indicates that a given applicant is not very well organized. An error might be made in immediately eliminating such an applicant, since he might respond favorably to assistance once he has been hired. This might be especially true if his attitude and interest are good, but he has had little prior assistance or training.

Format of Information

Since research indicates that the format in which information is presented can improve decisions, school district personnel should examine ways to improve presentation of information to the person making decisions.

- Small schools may use a combination of a visible card record file and a summary document which have been compiled by hand.

- Larger districts may use a computer to prepare summary documents and status reports on applicants.
- Medium-size districts may share computer services in cooperation with other districts.

Red Flags

As information is being examined (regardless of the source), personnel men in business and industry, governmental agencies, and school districts consider the following as negative information and the person who exhibits them a poor risk:

- negative attitudes toward supervisor and organization
- excessive illness or tardiness
- poor strength or energy
- poor motivation as indicated by a need for a lot of follow-up or a need to be pushed to do a job
- slow learning as indicated by a lot of mistakes, trouble understanding instructions, impulsive actions, or unwillingness to think independently.

Written Documents

Written documents. Letters of application (some of which include a résumé) are often received on an unsolicited basis. A well-formulated procedure for handling such letters is needed; the following are suggestions developed from practices in schools and businesses:

- Acknowledge all letters, provide specific information
- If no vacancy is available, inform the applicant
- If you keep names on file even though there is no vacancy, acquire the completed application blank in order to make an initial screen
- If the applicant comes in personally, let him complete an application blank, interview him briefly and let him know what procedures will be followed.

Application Forms

Businesses and industries use the application form (and the personal history record) to predict job success much more than schools; in many cases it has proved to be a beneficial aid.

⇒ SUGGESTION

School districts should capitalize on the potentially beneficial predictive information contained in the application form.

In school personnel selection, application forms tend to be lengthy and contain much information that is not used for prediction purposes. Sometimes this length is due to the fact that a general purpose form is used for all applicants for all positions. Industrial organizations tend to devise forms for specific positions in order to reduce the time spent by applicants in completing the form and to make it more usable for prediction. The implication of such procedures is that local districts should investigate the possibility of devising different forms for different types of positions, e.g., secondary and elementary teachers, or team teachers and self-contained, etc.

References
and Recommen-
dations

Application forms and documents from placement offices generally have a place where references may be listed; these references are usually asked for recommendations. Likewise, immediate past employers are usually asked for recommendations. Two methods are used for checking references:

- written (most businesses and many school districts have a checklist of items for which information is to be provided)
- telephone or visit (many businessmen use a form to record the information acquired). The benefits of the telephone check are that it saves time, reduces ambiguity because of the two-way conversation, amplifies incomplete or unfavorable information, and is often the easiest way to get to a supervisor (especially where mail is shunted to a central personnel office).

⇒ NOTE

Industry checks references before an applicant is employed, generally obtaining information from the immediate supervisor rather than the personnel office and checking on:

- *strong and weak points of applicant*
- *how he performed on prior jobs*
- *why he left prior position(s)*
- *work habits.*

Problems

Although recommendations by persons who know the applicant well can be a good source of information, there are problems which can reduce the benefit of recommendations for predicting performance. Among the problems are:

- non-discriminating descriptions
- validity varies according to source (especially in terms of how well the individual is known) and according to the quality of the description
- descriptions often include mainly conclusions rather than information regarding performance in specific situations.

Suggestions

Since these problems with recommendations exist, most businesses and schools have taken steps to remedy some of the problems. Among the most useful suggestions are the following:

- Inquire only about those qualifications that are most important.
- Seek information from a variety of sources.
- Clarify who is seeking the information and how the information is to be used.
- Provide information to the reference regarding the position to be filled.

- Seek specific information regarding behavior and results of behavior as well as the exact nature of the prior position.
- Seek information regarding the conditions under which the respondent observed the applicant.

Purpose of Interviews

Interviews. Interviews have two purposes: to acquire information from applicants and to provide information to them; the type of information being sought and provided determines the structure and content of the interview. For example, if the supply of teachers is scarce, much more time might be spent on "selling" the applicant on the job than when the supply of teachers is greater. Also, some time might be spent in each interview giving the applicant information about the position and working conditions, since it is beneficial to create goodwill toward the school district even if the applicant is not selected.

Variation in Interviews

Because of differences of emphases on collecting information and providing information to applicants, considerable variation exists in interviewing practices throughout the country. These differences exist in:

- structure, ranging from very flexible to highly structured interviews with questions determined prior to the interview
- number of interviews which each applicant must have prior to hiring and the sequence of these interviews
- use of group interviews (primarily used by industry)
- variety of people who are involved in interviews, ranging from students to citizens' groups, with a general increase in the use of teachers and non-professionals
- amount of training given to interviewers
- relation of written information to interview (sometimes ignored prior to interview, sometimes studied carefully.)
- how interview information is analyzed (sometimes done immediately by interviewer, sometimes later by another person).

Determine
Objectives
and Form

Research does not provide definitive information regarding all aspects of interviewing; however, it does indicate that when the objectives of the interview are vague and ill-defined and when no form is given to the interview, there is little reliability or validity to the conclusions reached.

⇒ SUGGESTION

When developing interview procedures, care should be taken to define objectives carefully and to specify the type of structure which will be used.

Stress
Interviews

The stress interview provides a particular type of structure and attempts to simulate tensions similar to those on the job in order to observe the applicant's tolerance for strain. Research does not show that the stress interview is any more successful than any other type. Since the stress could have an adverse effect on the applicant and therefore affect recruitment, it is suggested that any district which desires to try the stress interview develop careful plans for implementing the procedures. Further, research should be conducted to determine the effect of the interviews on applicants who are hired and rejected as well as the effect on selection success.

Guidelines
for
Interviews

Most interviewers combine directive questioning and non-directive procedures which use broader, open-ended questions. Following are general guidelines used by many organizations:

- Put the applicant at ease by asking some specific questions and getting him to talk.
- Never criticize or register disapproval; do not give applicant indications of what you consider to be a good response to a question.
- Ask some questions which require the applicant to structure his own response and resist talking during pauses to give him time to reflect.
- Keep the interview focused by restating questions and be alert to areas that need additional probing.
- Allow sufficient time for each applicant to acquire adequate information about the position.

- Provide information in written form the applicant to read prior to the interview to save interview time for questions.

Errors in Questioning

Research shows that several types of errors can be made in interviewing. One source of errors is the type of questions used and the manner of questioning; some of the more common errors of questioning include:

- asking questions which can be answered "yes" or "no"
- unimaginative questions
- leading questions
- questions which reveal interviewer's attitudes
- questions which have been answered in written documents
- questions which do not relate to the task at hand.

Other Errors

In addition to errors of questioning, most other errors which adversely affect the interviewing process are related to the judgment of the interviewer. For example, research has shown that relatively minor items may influence the interviewer unduly. Such items as a superficial resemblance of the applicant to someone the interviewer has known in the past, a reaction to nervousness on the part of the applicant, a fear of weakness in the applicant, a projection of interviewer characteristics into the applicant, or empathizing with the applicant may bias the interviewer. When this occurs, it implies that the interviewer needs training and practice, and information should be fed back into the system so that corrections may be made.

Research Needs

In addition, there is a need for research information regarding the type of people who can make good judgments, when these people tend to reach closure on these judgments, and how others can be taught to make better judgments. Many people believe that they can make good judgments about other individuals in a very short time; but research has not substantiated this for most interviewers.

⇒ SUGGESTION

Selection
of Inter-
viewers

Not all people are equally adept at interviewing. When selecting interviewers, the following qualifications should be considered:

- alertness to cues
- ability to make fine distinctions, perceive accurately
- ability to make immediate and accurate records
- willingness to use criteria established by the organization
- ability to suppress biases

Training
Interviewers

In addition to selecting interviewers carefully, attention should be paid to providing them with training and practice. Smaller school districts frequently involve principals in interviewing.

⇒ SUGGESTION

Regardless of the size of districts, when principals are involved in interviewing, school districts should consider following the general practice of industry (and of some school districts) of providing relatively extensive training in interviewing procedures.

Summary
Regarding
Interviews

In summarizing information regarding interviewing, it can be said that no generalizations can be made as to the "goodness" of interviews because the interviewer is part of the measuring instrument as he judges each candidate. In fact, the validity of interviews is frequently challenged by research results which indicate that not all interviewers are good. It appears that the validity of the interview depends on the skill of the interviewer, the situation, and the nature of the applicants. Training of interviewers has been effective in preventing errors and increasing discrimination of interviewers, but additional research on the effect of the interview, separate from

that of the interviewer, should help to improve the effectiveness of the procedure.

⇒ SUGGESTION

In developing local interviewing procedures, there is a need to:

- *develop ways to test interviewing skill*
- *select those who seem to do interviewing well*
- *develop means to train interviewers by helping them to acquire information (a measuring act), process information (by analysis and interpretation), and evaluate information (in terms of pre-determined standards).*

How Good .
Are Tests?

Tests. Paper and pencil tests are used much more by businesses and industry than by schools, but industry does not use as many tests with professional level people as with other employees. It is generally agreed that paper and pencil tests which are used for selection purposes are neither good nor bad, but that they should be selected in terms of what they will contribute to a decision in a local situation. This means that one should determine whether the test has a proved relationship to specific job success, since otherwise hiring high scorers may simply result in hiring those who are good test performers.

Factors to
Consider

Factors to consider in deciding whether to use paper and pencil tests for selection purposes include:

- potential contribution to the selection decision
- impact on potential applicants
- impact on employee morale
- cost

⇒ SUGGESTION

One should always weigh the potential improvement of the prediction of success or failure against the increased cost of testing.

Assessment
Centers

A relatively recent development being used by business and industry to appraise a candidate's potential for success is the assessment center approach. This procedure combines simulation exercises, observation of behavior in small groups, writing, problem solving, and paper and pencil tests.

For example, the popular "in-basket" test, which presents the candidate with a typical day's problems, not only probes his technical knowledge and his familiarity with company policy but also his ability to plan his work, to deal with emergencies in the absence of his superior, and to delegate or postpone solution of less important problems. In industry, assessment centers are often used to test employees for "management potential." The procedure has met with some success in industry and has shown enough promise to merit investigation for possible application in education, especially by large school districts and colleges of education.

Decision Strategies

Institu-
tional
Decisions

The first idea which must be grasped by a person making teacher selections is that he is involved in making institutional decisions; difficulties arise when this fact is overlooked. Institutional decisions employ a common value system for a set of decisions and an attempt is made to use the same criteria over a sustained period of time.

⇒ CAUTION

When decision makers allow the value system of the applicant to sway their judgment regarding organizational needs, their decisions are likely to be inconsistent and not as beneficial to the organization.

For example, if a given applicant does not fit the job particularly well but has a great need for a job and is willing to take risks with regard to his own success, there may be a tendency to hire the individual out of sympathy for his need. However, unless the extra motivation (which might be indicated by the need of the applicant) compensates for other shortcomings which are evident, the decision to hire this person might not be in the best interest of the organization.

Sequential Hurdles Strategy

Most strategies for selecting teachers allow decisions to be made at several points during the selection process, including any of the following:

- preliminary interview
- application form
- tests
- interview(s)
- check of references
- written records of background
- discussion with principal
- physical examination
- certification

Although decisions may be made at any of these points, usually the decision is either not to hire the applicant or to continue seeking additional information. In effect, the strategy is a "sequential hurdles" approach, with the decision to hire the individual being made only after all information has been collected.

Involving People

It seems relatively obvious that a number of people might be involved in making decisions regarding applicants at the various steps indicated above. The initial screening may be done by one person or one group, while the final judgment might be made by another. Likewise, the decision of fitness for hiring may be made by one individual, while the decision about placement may be made by another.

Selection of teachers is a major personnel function; how it is done affects relationships with staff, students, and parents. The function of selection of teachers is

too important to not be systematically planned and well executed; therefore, one person in each school district should have the responsibility for organizing, coordinating, and directing the selection process. In larger districts, this is likely to be a full time position for an assistant superintendent or personnel director, whereas in smaller districts one person might have this as one of his several assignments.

- The important point is that poor selection procedures should not be allowed to develop because of a lack of specification of who should be responsible for the function.

Since the selection process is not a single-phase operation (it consists of much more than simply making a choice), one of the major responsibilities of the person in charge of selection is to determine who should be involved in what phases of the selection process and what should be the sequence of activities.

Placement

When a person is hired for a specific position, no separate strategies for placement are necessary; but when teachers are hired into a "pool," special placement strategies are necessary. Such strategies in use in public schools include:

- central office makes the placement decision
- central office makes the placement decision on approval or recommendation of the principal
- a committee makes the placement decision
- the applicant has the opportunity to make a choice and be approved by the principal.

Job Offer

The decision of who is the most suitable of a number of applicants is a different decision from the one to make a job offer. The first decision involves predicting how each of a group of applicants will perform in a given position; the second involves predictions regarding whether applicants will apply and whether certain other applicants will accept the job if it is offered. The following points should be considered in making job offer decisions:

- Are better applicants likely to apply within the time period when an offer should be made?

- If other applicants do apply, what is the likelihood that this position will be attractive to them?
- Should multiple offers be made?
- Who will decide when to make an offer?

Errors by People

In making decisions about the selection of teachers, a number of errors may be made related to the interpretation of data. Some of these errors are due to the people involved, while others can be traced to faulty organizational procedures. Those which are most likely to be made by people include:

- errors of rating such as leniency, halo effect, contrast, and central tendency
- errors of logic
- errors of rationality, including faulty rating, confounding, overgeneralization, and premature closure.

Some of these errors may be reduced by training, but much research needs to be done to determine how to reduce human error in decision making. Other errors by people may be reduced by selecting people who make fewer of these types of errors.

Procedural Errors

Poor organizational procedures can contribute to errors in:

- human relations, such as careless treatment of candidates
- decision making strategies which overly depend on expert opinion, which misjudge job requirements, or which overlook the need to select people compatible with personnel within the organization
- policy, such as that which makes stop-gap appointments
- communication, because of inadequate means to process applications and documents.

⇒ CONCLUSION

On the basis of the research conducted to date, the following conclusions appear to be justified:

- *Training and experience of the decision maker influences his interpretation of information.*
- *Ability to interpret data is not related to sex.*
- *More accurate judgments are made by those who do not become emotionally involved or who are socially detached.*
- *Use of multiple raters tends to improve predictions.*
- *The selection decision is improved by using a single page summary document and by providing instructions on how to process information.*

Controls of the Selection Process

To control the teacher selection process, it is necessary to analyze sources of error and initiate procedures to eliminate errors. In most cases, errors result from improper goals, inadequate procedures, and/or improper implementation of procedures. Since errors may occur at any stage in the selection process, a periodic examination should be made to determine if the process is functioning well at each of the following stages:

- determination of teacher need
- determination of teacher attributes desired
 - recruitment
 - collection and processing of data
 - making predictions
 - developing strategies for choices
 - final selection
 - placement.

In addition to checking errors, one should also examine outstanding successes in an attempt to determine what procedure was used, how the predictions were made, and who was involved. Successful selections may yield as many clues to proper functioning of the selection process as errors.

To investigate possible alterations in the implementation of the total selection process, one should examine the collection and processing of data by looking at:

- ease of administration of information collection
- ease of scoring of tests or of rating of observations in interviews or written documents
- ease of interpretation and application
- reasonable cost
- proper construction of records, instruments.

Measurement specialists caution that there is no such thing as general validity for any measure, since its usefulness has to be proven for every situation in which it is to be used. Research indicates that correlations among two or more variables tend to change from time to time because of the fact that both working conditions and personnel in schools change.

⇒ CONCLUSION

The implication of research findings and advice from measurement specialists is that any measure of success of a selection process is likely to be only temporary. This means that the value of the procedure should be checked periodically.

Finally, it should be emphasized that the ultimate value of a district's selection process depends on how well it predicts the success of teachers in meeting a given school district's needs. For this reason:

- Objective investigations must be conducted at the local level to determine the effectiveness of the selection process.

- Local districts cannot depend entirely on research conducted outside the district to evaluate their selection procedures (since general research gives clues to what might be tried, but can not tell what is actually effective in a given situation).

⇒ ABSTRACT: EVALUATION OF TEACHERS

The reasons for establishing comprehensive and systematic teacher evaluation procedures are to improve learning conditions for children and to facilitate administrative decisions. Evaluation procedures are most effective when they are cooperatively planned by teachers and administrators who receive assistance from specialists, consultants, parents, and students. All personnel involved should understand the purposes of evaluation, the nature of the procedures, and the roles of the various people involved.

The purposes of teacher evaluation include:

- *to improve instruction*
- *to reward superior performance*
- *to supply information for modifying assignments*
- *to protect both the individual and the school system*
- *to validate the selection process*
- *to provide a basis for career planning of the teacher*
- *to facilitate self-evaluation.*

Evaluators should be well trained to assist in the following stages of the evaluation process:

- *goal setting conferences*
- *observation and information collection*
- *post-observation conferences, communication*
- *decision making*
- *assessment of the evaluation process.*

Problems are encountered in teacher evaluation when there is an emphasis on fault-finding rather than helping teachers; when prejudice, bias, and poor judgment are used in collecting and analyzing information and when communication is not open and honest. The most effective evaluation plan is one which contributes to higher teacher morale and improves learning conditions for boys and girls. Questions discussed in the following pages include:

- *What are the implications of multiple purposes for evaluating teachers?*
- *Who should be involved in planning for evaluation?*
- *Who should determine teacher behaviors desired and learner outcomes desired?*
- *Who should be involved in evaluating teachers and in what way?*
- *How should evaluators be trained?*
- *What problems should be avoided?*
- *What decisions should be made on the basis of evaluation?*
- *How can the evaluation process be analyzed for improvement?*

Goal-Setting Conferences

It is assumed that the teacher evaluation process consists of the following stages:

- goal-setting conferences
- observation and information collection
- post-observation conferences, communication
- decision making
- assessment of the evaluation process

What is necessary to establish effective goal-setting conferences with teachers? It seems reasonable to consider the following in preparing for meaningful conferences:

- what evaluation is and what it is not
- how the total evaluation program should be planned
- what purposes for evaluation are
- what problems are likely in teacher evaluation
- how evidence for determining when desirable outcomes occur can be established.

What is Evaluation?

All teachers are evaluated. Regardless of how formal the system for evaluation is, what evidence is collected or analyzed, how often formal reports are written, teachers are evaluated and they are evaluated rather often. They are evaluated by students, parents, other teachers, administrators and supervisors, and the public. The question is not whether teachers should be evaluated, since this cannot be avoided; rather the question is how systematic the evaluation should be in order to be most effective.

The
Question

This is the question facing administrators and teachers: how can an evaluation system be designed in order to be effective? Effectiveness must be in terms of certain purposes desired for the school district; and the design of the evaluation system should include some way to collect and process information, a way to communicate with people concerned, and ways to make decisions and assess how well the evaluation system works.

Yet, evaluation is a nebulous problem. It is difficult to grasp in its entirety, a little different from school to school and from district to district. Because of this, some people approach the problem with the attitude Charlie Brown expressed in a Peanuts cartoon. The dialogue was as follows:

Lucy: How are you doing in school these days, Charlie Brown?

Charlie Brown: Oh, fairly well, I guess...I'm having most of my trouble in arithmetic.

Lucy: I should think you'd like arithmetic. It's a very precise subject.

Charlie Brown: That's just the trouble. I'm at my best in something where the answers are mostly a matter of opinion.

Precision

Many people consider the evaluation of teachers to be just that: mostly a matter of opinion. The problem underlying this viewpoint is the question of precision--how precise a principal desires evaluation to be, how precise the superintendent and school board desire evaluation to be, and how precise teachers desire evaluation to be. What are some of the implications of varying degrees of precision?

An Example

For example, suppose you wanted to measure the length or the circumference of a small object. Three different tools might be used: a piece of string, a ruler, or a micrometer.

The string has obvious advantages and disadvantages: it is cheap, plentiful, easily available, expendable, and easy to use or explain to an untrained person. On the other hand, it tends to wear out and stretch with age and use, it lacks accuracy because of its relative elasticity, and different people tend to stretch it to differing lengths when they use it for measuring.

The ruler has definite advantages over the string: it does not stretch (increasing what is called the reliability of the measurement) and it tends to last longer than the string. However, rules are not so available as string, and untrained people make mistakes with them.

The micrometer is much more expensive than either of the other tools, is less accessible, and is difficult for

some people to use. Yet, it has an accuracy that is necessary for some jobs--an accuracy that cannot be obtained with the other tools--and in the hands of a trained operator it is seldom misused.

The analogy to measurement in the evaluation process appears clear. Some measurement devices have characteristics similar to the string; others, while more accurate, have some of the disadvantages of the ruler; while still others have the specialized uses of the micrometer. Therefore, measurement devices and procedures are chosen according to how precise one desired to be, and what types of resources are available; considerable precision can be obtained if it is desired.

Definition Note the distinction between measurement and evaluation. "Measurement" is many times used synonymously with "assessment" and is related to the quantified or quasi-quantified description of events, behavior, or outcomes. However, evaluation (in the context of evaluating teachers) has to do with judgments relating to the "goodness" of teacher behavior and/or results of that behavior in light of agreed-upon objectives. These objectives usually are approved (either tacitly or explicitly) by a particular school system and community, giving the objectives a type of social validity for that community.

Evaluate
Program or
Individuals? There is a difference between assessing or evaluating the program of a school or a school system and evaluating the individuals who contribute to that system. The former attempts to look at the output of the total system, the procedures used to accomplish those outcomes, and the way those procedures were implemented. The latter examines the contribution to the system in terms of individual output, procedures, and implementation. This report is concerned with the evaluation of teachers rather than evaluation of systems of teaching within school systems.

The advantage to examining the effectiveness of teachers is that one can make better inferences about system performance from combinations of subsystem performance than he can make about subsystem performance from the total system performance. For example, if one knows something about each individual teacher's performance in a building, he can infer something about the total performance of the school. However, knowledge of the total productivity of the school would provide little basis for inferring how a given teacher behaves.

What is
Involved

Accurate measurement can occur without evaluation. However, it is impossible for evaluation to be good without adequate measurement. In addition, the data collected via the measurement process must be adequately analyzed and interpreted if good evaluation is to occur. Therefore, good evaluation is preceded by:

- a determination of what is important (criteria)
- measurement
- analysis
- interpretation

Judgments made prior to these activities are likely to be unsound. (Note that it is assumed that the making of judgments regarding teachers is inevitable.) The real issues are concerned with whether the criteria are appropriate and the data are sound.

⇒ CAUTION

In evaluating teachers, the emphasis is on making judgments in relation to objectives, not on judging the personal worth of people. (viewpoint: research staff)

Formal evaluations should be analytic rather than comparative, establishing whether the teacher reaches various standards but avoiding attempts to compare the teacher with other teachers. The emphasis should be on helping individuals improve their contributions to the learning of school children rather than on taking punitive or controlling actions, making odious comparisons, or using questionable motivation techniques.

Planning for Teacher Evaluation

Suppose you had the responsibility for planning a teacher evaluation program for a school or a school district. Where would you begin? Whom would you involve? What decisions would need to be made? How rapidly would you try to implement the procedure?

Objectives

One of the first steps to be taken in planning a teacher evaluation program is to determine what is considered important in teaching--in the situation for which the evaluation program is being considered. This determination of what is important in teaching allows one to:

- establish what is expected of teachers (as far as behavior and outcomes of behavior are concerned)
- determine ways to measure what is happening
- design ways to compare what occurs with what is desired.

People Involved

However, who will be involved in deciding what is important in teaching? Certainly, one should involve teachers in this decision and in the total design of evaluation procedures.* The involvement of teachers in planning evaluation procedures is based on the premises that:

- a better plan will develop
- there will be more teacher commitment to the procedures
- teachers will know what they are to do
- teachers will know what will be evaluated.

These premises are more than assumption or mere hopes. School districts which have involved teachers in planning have found that output and procedural goals for individual teachers are better understood and attained when they are cooperatively developed and written in precise terms than when they are unilaterally determined or written in very general language. Also, there is more commitment to goals and procedures when goals are specific and attainable and when people who are to accomplish the goals are involved in establishing them.

In addition to teachers, administrators should be involved in planning the teacher evaluation procedures. In fact, some propose that the design of an evaluation procedure should begin with an evaluation of how well principals and supervisors evaluate teachers. The insights gained from this experience would form a firm basis for cooperation in developing a plan for teacher evaluation.

*A more detailed discussion of involvement of other people begins on page 48.

Activities

The reason for beginning with the administrative-supervisory staff is that the procedures for evaluation of professional personnel are the same, regardless of the level or position of the personnel. This does not imply that criteria will be the same, but that the methods of establishing criteria, data collection and analysis, and decision making will be similar enough that the experience can be transferred from the administrative level to the teacher level.

Time Sequence

In planning the total teacher evaluation, consideration should be given to when certain activities should occur. Some experience can be gained with the administrator evaluation plan, but the time when certain phases of the process will occur will be different. For example, the goal-setting stage or the final decision stages may occur in similar sequence to administrator evaluation but at somewhat different times of the year than with teachers. Other than legal constraints regarding continuation of contract, there appears to be no reason why considerable variation could not occur from district to district or from school to school.

In addition to the sequence of events in the evaluation process, a choice must be made regarding whether the planning will occur on a piecemeal or comprehensive basis. That is, will certain aspects of the evaluation process be considered independently of other parts and decisions made to change a given part; or will the entire teacher evaluation procedure be examined and nothing changed or implemented until plans are complete for the entire process? The following comments seem appropriate to this problem area:

- The comprehensive approach is more likely to yield a well-integrated plan which satisfies the goals desired; however, it requires a mature staff and a spirit of cooperation and optimism regarding the approach.
- The piecemeal approach risks early implementation of procedures which may not be compatible with desirable activities at a later point; however, it is often argued that any steps leading to professional growth of teachers will improve learning conditions for children.

⇒ CONCLUSION

Planning teacher evaluation procedures consists of determining: (a) objectives, (b) people who will be involved, (c) activities that should occur, and (d) time sequence of events. The way decisions are made regarding this planning predetermine much of the effectiveness of the eventual procedures as well as the satisfaction with these procedures.

Purposes of Teacher Evaluation

Identify
All
Purposes

One of the first steps in establishing or revising a program of teacher evaluation is the determination of purposes of the program. If the program is to be successful, it is necessary that these purposes be identified, discussed, and agreed upon by all who are involved in the process. It is important that all potential purposes be discussed openly and thoroughly; certain purposes should not be ignored just because there are critical issues involved in them or because their accomplishment may precipitate conflict.

For example, one purpose for a program of teacher evaluation might be to provide a basis for sound administrative decisions regarding re-employment. Some people think that the accomplishment of this purpose creates an atmosphere which decreases cooperative relationships between administrators; they prefer to ignore this purpose and hope that the problems inherent in re-employment will not arise. However, since even in small districts these problems do arise, all purposes should be discussed openly and clarified in writing so that teachers and administrators may understand the bases for the evaluation program.

⇒ NOTE

Morale cannot be high if staff members are fearful or hostile. Since unknowns contribute to fear, evaluation programs which have written statements of purpose that are clear, precise, and complete are more likely to produce a sound basis for open communication and cooperative relationships than programs designed around ambiguous or unwritten purposes.

Some
Purposes
Identified

Purposes of teacher evaluation vary somewhat from district to district and include many of the following:

- to improve teaching (including out-of-classroom activities as well as classroom instruction; this purpose is not limited to teacher behavior but implies any actions taken to improve teaching systems, the teaching environment, or teacher behavior)
- to supply information for modification of assignments (including placement in another position, reduction of load, promotion to a leadership position, or termination of employment)
- to protect individuals or the school system (including both the protection of teachers against a capricious new administrator and the protection of the school district and children against a harmful teacher)
- to reward superior performance
- to validate the selection process
- to provide a basis for career planning and individual growth and development of the teacher (including professional degrees and inservice training programs).

Inclusive
Statement

All of these purposes might be expressed by saying: The purpose of teacher evaluation is to safeguard and improve the quality of instruction received by students. Implied in this statement is the view that evaluation of teachers will facilitate both teacher and administrator decisions (the teacher's decisions regarding how to perform as a teacher and what will improve that performance, and the administrators' decisions regarding what actions he might take to aid students and teachers.)

The nature of the listing of purposes, or even of the presence or absence of a formal evaluation plan, should not alter the individual responsibility that teachers share with other professional practitioners for continuous self-improvement. However, if the school district has a well-organized program of formal evaluation with clearly specified purposes, it should be of assistance to the teacher in his voluntary program of continued self-assessment and improvement.

Changing
Research
View

From a research standpoint, the purposes of evaluation of teacher effectiveness have changed somewhat in recent years. For a long time, the purpose was to show that certain types of teachers provide certain patterns of teaching. In order to do this, it was necessary to observe the teacher a large number of times to determine what his stable patterns of teaching were.

More recently, the emphasis has shifted in the direction of attempting to determine why teachers vary their behavior from one teaching episode to the next and whether or not this variation is itself associated with particular educational outcomes. The concern here is for variation of teaching behavior between visits and the consequences of this variation.

For practitioners, the implication of this shift in emphasis is significant. The practitioner is interested in what works, and he realizes that some stable patterns of teacher behavior do not produce results in certain circumstances. He needs to know what produces learning in particular situations and how teachers can be encouraged to choose those behaviors which have a high probability of success.

Relation
to District
Goals

The teacher evaluation program should not ignore other aspects of the school program. The function of evaluation is to facilitate the accomplishment of the goals of the organization; therefore, the purposes of evaluation should be established following a complete review of the goals of the school district. When this has been done, the purposes of evaluation are more likely to be compatible with and contribute to the school district goals.

For example, to reward superior performance can be a legitimate purpose of evaluation, but it should be clearly related to the goals of the organization if it is to be included in the purposes of evaluation. If it is clear that rewarding superior performance provides incentive and motivation for creative teacher behavior which causes children to learn better, then to reward superior performance seems a reasonable purpose for evaluation.

However, some may desire to initiate a reward system for the purpose of controlling the behavior of teachers (without regard for the effect on accomplishment of educational goals) and this may lead to a misuse of the evaluation function.

⇒ CONCLUSION

The purposes of teacher evaluation programs should grow out of clearly stated goals of the school system and should contribute to the accomplishment of these goals.

Possible Problems in Teacher Evaluation

Possible Adverse Effects

Adverse effects are indications of problems which exist and their examination may indicate the source of a problem. Some of the possible adverse effects of teacher evaluation include:

- human relations tensions when poor performance is perceived by the evaluator
- reduction of creativity if evaluation system is too rigid
- reduction of assistance provided by supervisor or principal
- poor validation of selection process.

Human Relations Tensions

Evaluators need to be aware of the fact that diagnosis of the teaching act is primarily cognitive, i.e., diagnosis primarily involves knowledge. However, interpretation of this knowledge by the person being evaluated is not necessarily cognitive at all, since it may be interpreted on an emotional level. When evaluation procedures include placing people in categories, e.g., "good" or "average," an emotional response is quite likely to be precipitated on the part of some teachers. Regardless of the evaluation program, evaluators should be prepared for emotional responses and should provide psychological support for the teachers being evaluated.

Reduction of Creativity

Creative teachers can function in a variety of situations. However, teachers do tend to be affected by the form of evaluation used. If the evaluation criteria require strict adherence to predetermined procedures and materials, the constraints are likely to reduce the motivation for divergence and creativity.

Reduction of Assistance

When the principal or supervisor has both the responsibility of helping the teacher improve and the job of being

accountable to the school system for results, he sometimes has the tendency to emphasize accountability to the extent that it adversely affects his ability to help the teacher. At other times, his ability to assist the teacher is reduced simply because he has the responsibility of accountability. Some consider this reduction to be a result of a natural distrust which teachers have of the use to be made of information obtained through the evaluation process. However, it may be due more to lack of knowledge of how evaluation is used and must be used by personnel who are charged with responsibilities to help teachers, viz., the evaluation information forms a basis for the counsel and assistance provided. Without it the assistance would be shallow and meaningless. The issue is not whether those who supervise and provide assistance should evaluate teachers; rather, it is how information obtained through the evaluation process should be used.

Selection Validation

A number of reasons exist for poor validation of selection procedures. However, foremost among them is the fact that very few school districts have reliable measures of teacher performance. Suppose, for example, that a principal is concerned with the fact that teachers will not accept him as a person who can help them if he emphasizes accountability to the system and attempts to measure their behavior and performance accurately. What is he likely to do and how will this affect the validation of selection procedures?

Under these circumstances, a principal is likely to evaluate all teachers more favorably than he should, indicating more uniformity than exists. In effect, his evaluation reflects a rather general "halo effect" and the measures approach a constant. When this occurs, no predictor can be found that will predict teacher effectiveness for that situation. Since all teachers appear to look alike once they are evaluated on the job, any predictor variable will predict as effectively (or more precisely, as ineffectively) as any other.*

The same consequences result if an evaluator allows his measurements to migrate toward a central tendency. Likewise, if the measurements provided by an evaluator are in

*An explanation of what happens in the correlation computation when one of the variables approaches a constant is provided in Appendix 1.1.

in fact not related to the behavior of the teacher or the results of this behavior, then the correlation with any predictor variable is likely to be zero. In affect, any evaluations which approach some constant value or which approach some random assignment are likely to be worthless for validation of selection procedures.

Some
Problems

Many of the problems underlying the adverse effect mentioned above are directly traceable to poor measurement procedures. Problems of measurement include the following:

- prejudice, bias, or poor judgment
- inconsistency of reaction to behavior
- subjective ratings and classifications (or classification schemes which require high inferences to be made)
- influence of the personality of the teacher outside the classroom on measurement of behavior in the classroom
- attempt to measure too many elements of classroom situations (especially at the beginning of a program)
- tendency to continue a prior viewpoint of a person's performance
- consistent overvaluation or undervaluation.

The last problem, viz., overvaluation or undervaluation, deserves additional consideration. Overvaluation sometimes is caused by a desire to avoid antagonisms with teachers, an effort to make the supervisor look good, or a sympathetic response to a certain individual's problems (e.g., age, or problems outside the school situation. The desire to avoid antagonisms is a strong motivator for some principals and supervisors, especially those who see themselves as place-bound, desiring to live harmoniously with teachers over a long period of time, and being fearful that accurate reporting of measurements will damage the harmonious relationship.

However, the practice of indicating to a teacher that he is performing well when in fact he is not (i.e., of continually overvaluing his performance) can be as much a disadvantage to him as it is to the organization. The reason for this is that the teacher then has a limited basis for improvement in comparison with what he would have if full information were provided. Of course, the school organization and

the children do not benefit either, since the performance does not improve as much as it might.

Situational
Constraints

Sometimes it is difficult to determine whether poor results are due to poor performance on the part of the teacher or to situational constraints that prevent better teacher performance. When there is any doubt on this question, it is essential that the conditions under which the teacher works receive direct attention in making an evaluation of the teacher's effectiveness. Sometimes the environment (including supplies and materials as well as the psychological environment) is such that learning is inhibited, and a review of those situational factors that might be expected to influence the effectiveness of the teacher will help to prevent poor judgments regarding the teacher.

Feasibility
of Annual
Evaluation

Another problem of teacher evaluation which should be considered when making plans for goal-setting conferences with teachers is the feasibility of evaluating all teachers annually. Many school districts do not have an adequate administrative and supervisory staff to do an adequate job of evaluation. In analyzing this problem in local school districts, there should be an attempt to relate the problem to purposes for which the evaluation program is designed. However, if one of these purposes is to assist teachers in improving their instruction, it becomes very difficult to justify a program which does not include continuous evaluation of every teacher.

Consider an analogy to a baseball team. It is inconceivable that any major league team would discontinue observing the production and actions of a given player after he had been on the team for three or five years. This raises the question of why batting coaches still watch hitters. It seems reasonable to conclude that they watch batters to determine whether they are still hitting the ball, under what conditions they are hitting the ball, and whether there appear to be any flaws which hinder improved hitting.

It also raises the question of the number of coaches needed, assuming that coaching (rather than umpiring) is desired. When Mickey Mantle joined the coaching staff of the New York Yankees in September of 1970, he became the fifth

coach in addition to the field manager to work with 25 professional ball players. How many coaches are needed for an athletic team of x players, i.e., what is the person/coach ratio?*

⇒ NOTE

If part of the function of the evaluator is to provide assistance for teachers (i.e., to be a coach rather than an umpire), then consideration should be given to the number of evaluators needed to do an adequate job and efforts should be made to work toward acquisition of these evaluators.

Desirable Outcomes and Evidence of Them

What are the outcomes that should be sought in a goal setting conference? Certainly the two major items which should be considered are: what behaviors are important and what should result as a consequence of these behaviors. Most school districts expect different results from different teachers, since grade levels and subject matter differences anticipate differing expectations. Yet, most school districts use the same evaluation procedures and behavioral expectations (at least as judged by uniform evaluation forms and observation guides) for all teachers.

⇒ NOTE

It seems reasonable for a school system to expect certain desirable behaviors from all teachers in the system. However, it is also desirable to have different sets of expectations for the evaluation of different groups of teachers, the expectations varying according to the tasks set for each group.

*People in policy making positions might raise this question in comparing the student/coach ration on the high school athletic teams with the teacher/supervisor ratio on the high school staff.

For example, consider three factors which might be used to describe teacher behavior.* One might be called an Empathy factor and would describe behavior ranging from "warm, understanding, and friendly" to "aloof, egocentric, and restricted." A second factor might be Buoyancy and would describe behavior ranging from "stimulating, imaginative, surgent" to "dull and routine." A third factor might be Organization, describing behavior ranging from "responsible, businesslike, and systematic" to "evading, unplanned, and slipshod."

The three factors are illustrated in Figure 1.1. Points A, B, and C in the three-dimensional space represent behaviors of three teachers. Teacher A exhibits low Empathy, Buoyancy midway between high and low, and high Organization; Teacher B exhibits Empathy and Organization midway between high and low, and high Buoyancy; Teacher C exhibits low Empathy, Buoyancy, and Organization.

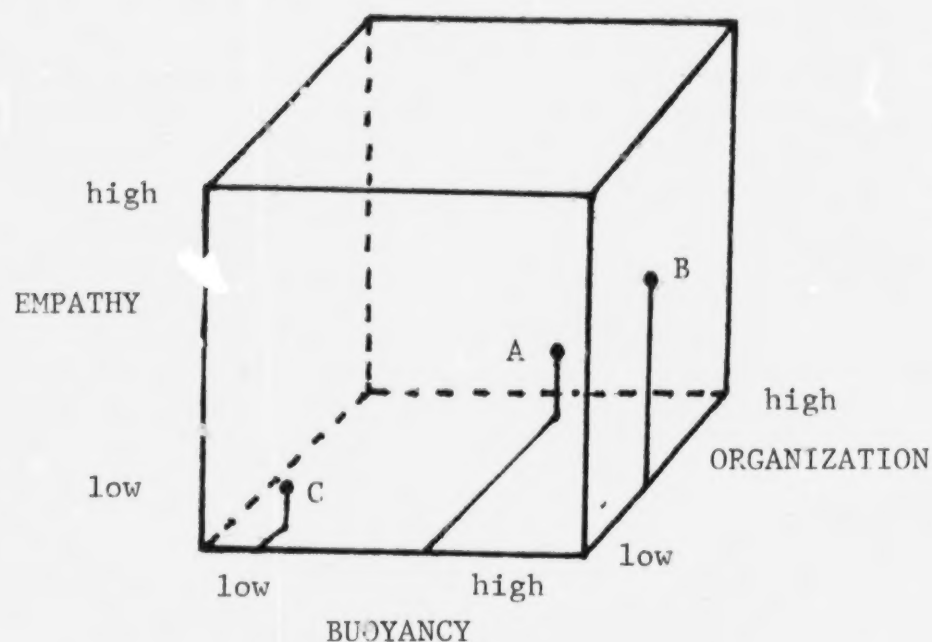


Figure 1.1. A Representation of Three Factors of Teacher Behavior.

*The discussion in this section draws from the work of Ryans (1960).

The question which might be asked of Teachers A and B is whether these behaviors could be equally successful in the same situation. Likewise, would different situations indicate that one of the two teachers would be more successful than the other? Some teachers can shift from position A to position B, while others are less adaptable in their behavior. Some teachers appear to be at point C and have difficulty in changing their behavior.

Desirable Teacher Behaviors

Although the teacher behaviors which are beneficial for one group of children might not produce the same results with another, there are some teacher behaviors which have precipitated desirable pupil outcomes in a variety of situations. Students seem to profit from a teacher who:

- accepts and uses ideas and opinions of pupils
- is flexible and adjusts behavior and strategies to situations and students
- views teaching as a complex task which requires goal setting, individual student assessment, and decision making in terms of immediate and long-range problems
- provides students with a framework within which to interpret information.

In discussing teacher behavior, it is desirable to emphasize descriptive terms prior to attaching any value to these descriptions. Likewise, it is wise to avoid terms that are emotion laden, such as "democratic" or "progressive."

In addition to discussing performance (in terms of behavior and/or output) in the goal-setting conference, at least one other item should be considered: the potential of the teacher for additional tasks. Since this is directly related to the purpose of providing career counseling for teachers, it should be included in the discussion of goals to be sought.

Observing Teachers and Collecting Information

The tools and techniques that one uses to collect information for evaluating teachers must be related to purposes. Since multiple purposes usually exist, one question which

arises is whether the system for collecting data adequately serves all of the purposes. For example, will the techniques and procedures used to accomplish the purpose of improvement of instruction serve all other purposes?

⇒ SUGGESTION

Focus on developing a system of information collection which satisfies what is considered to be the major purpose of teacher evaluation. Then examine the system developed to determine if adjustments are needed to serve all other purposes.

In making plans to collect information for the evaluation of teachers, the following questions should be considered:

- Where will the information be acquired?
- What will the information look like?
- How will a sample of total information be acquired?
- Who will collect the information?
- How much training will be required to collect it?

Sources of Information

Three basic sources of information are available for analysis and interpretation prior to evaluating teachers:

- in-classroom behavior of the teacher, as perceived by students, the teacher being evaluated, other teachers, administrators or supervisors, para-professionals such as teacher aides.
- out-of-classroom teacher behavior, as perceived by students, the teacher, other teachers, administrators or supervisors, teacher aides, and other paraprofessionals such as cooks and custodians.
- student accomplishment, as measured by teacher-made tests, standardized tests (achievement, attitude, or skill performance), student

self-report devices, observations of student behavior (by teacher, outside observer, parent), student products or projects.

Nature of Information

Choices
to be
Made

Since teacher evaluation is dependent upon measurement in gathering information, care should be taken to develop procedures and train people so that appropriate instruments are chosen and used effectively.

⇒ CAUTION

Instruments should not be chosen solely on the basis of the evaluator's familiarity with the instrument, its availability, or the fact that other districts are using it. Consideration should include:

- *relevance to goals*
- *acceptability by those who are involved*
- *accessibility of information*
- *time needed to acquire information*
- *cost.*

Need to
Reduce Data

In order to evaluate teachers effectively, the information which is available must be reduced from its raw form to a form which may be analyzed and interpreted. For example, "raw" data regarding the teacher behavior might be either the behavior itself or an audio or television tape recording of classroom activities. When "reduced" it might take the form of a matrix of figures of comments by an observer. Raw information regarding student accomplishment might be the answer sheets of an achievement test, while the reduced data might be a letter grade or rank in class.

⇒ NOTE

The procedure used for reducing data from its raw form influences the final interpretation of the information collected.

Types of Measures

Regardless of whether one is concerned with teacher behavior or results of this behavior (e.g., student accomplishment), when the raw data is reduced it generally takes one of the following forms:

- rank order
- forced distribution
- absolute categories
- verbal descriptors.

Rank ordering is simply the ranking of individuals in a group according to some item or characteristic. A forced distribution requires that a certain percentage of the item being considered be placed in each descriptive category. For example, one might require that individuals be placed in five categories according to the following ratios: 10%, 20%, 40%, 20%, 10%. Absolute category systems describe individual behaviors or total behavior in a classroom by placing incidents or time periods into discrete descriptive categories. For example, Flanders' Interaction Analysis system is designed to categorize verbal interaction. Verbal descriptors are used by observers to express what has been perceived. They may be in sentence or phrase form and depend on the behavior exhibited and the facility of the observer to describe the behavior in accurate terms.

Reducing the raw data implies that some type of measurement is occurring, and measurement itself implies a category or numerical system that is precise. But having a category system or a numerical system does not imply that the system is precise, since the use of the system determines the precision.

For example, if a person were asked to count the number of shots taken in a basketball game and record approximately where they were taken and who made them, he might be able to do this with extreme accuracy. However, if the same person were asked to determine how many times a hockey player was out of position during a game, the result might be quite inaccurate. He might record a number that looks very precise but that may deceive.

⇒ CAUTION

A wrong number is wrong even if it looks very precise. As much care should be taken in designing the implementation and use of a measurement system as in the design of the system itself.

Systematic
Observation
Procedures

Observation of classroom behavior. Recent developments in classroom observation techniques has increased significantly the number and type of observation guides available. Simon and Boyer (1970) describe 79 different observation schedules available for use; many have been used for research only, but are quite easily adapted for evaluation purposes. Some measure very special aspects of classroom behavior (e.g., verbal interactions), whereas other instruments are broader in scope.

There have been two major applications of classroom interaction analysis procedures:

- to help an individual develop and control his teaching behavior
- to discover how to explain the chain of events which occur in the classroom.

It seems obvious that either of these applications could be of use in evaluating teachers.

Although there are many observation guides available and although many of them could be useful in evaluating teachers, their use is not as widespread as less precise measures. The reasons for this lack of use appear to be:

- information has not been broadly disseminated
- very few opportunities have been provided for learning the skills necessary to use the techniques.

There are some notable exceptions to the limited use of systematic observation procedures. For example, the use of Flanders' Interaction Analysis system has increased dramatically in the Northwest because of workshops conducted by the Northwest Regional Educational Laboratory

Analytical
and General
Observation
Procedures

to disseminate information and develop skills in the use of the system. Teachers and administrators find they are able to discuss teaching in a more precise language after learning the interaction analysis system.

Rating scales and checklists* are used much more commonly for measuring classroom behavior than are systematic observation procedures. The major advantage of rating scales and checklists is that they allow the observer to consider clues from a variety of sources before making a judgment. However, this same characteristic can also be a disadvantage, since a delay in recording information can cause errors.

Two additional problems of rating scales or checklists should be mentioned:

- When too many ratings are clustered at a particular point, the inference is that raters are overly lenient, too harsh, or are unwilling to be decisive and objective.
- It is easier to identify the very poor or the very good than it is to differentiate in the middle range of a rating scale. Therefore, decisions concerning middle range ratings are more difficult to justify.

⇒ SUGGESTION

If they are used in evaluating teachers, the accuracy of rating scales or checklists may be improved by:

- *clearly defining the focus of the evaluation*
- *developing specific, low-inference items*
- *using a common record form*
- *providing adequate training for observers*

*Probably the best single source for describing the types of analytical and general observation procedures being used in public schools is Evaluating Teaching Performance (1969). (See Bibliography.)

Measuring Out-of-Classroom Behavior. To the extent that the activities of the teacher in roles other than classroom instruction are considered to be important as a part of the assigned or expected responsibilities, documentary evidence should be assembled regarding these activities. As with classroom behaviors, the expectations of the school organization should be discussed with the teacher and he should have an opportunity to set goals that are compatible with his own interests and ability to contribute.

⇒ NOTE

Since out-of-classroom activities are sometimes sources of conflict (or at least subject to differences of interpretation) between teachers and the community, new teachers should be oriented to local customs and expectations.

In measuring out-of-classroom behavior of teachers, advantages and disadvantages exist. The advantages seem to be:

- information to be obtained is ample, often pertinent to the job expectations
- information is relatively easy to obtain.

The disadvantages appear to be:

- reliability of information is difficult to check
- sampling information is difficult and limited
- information obtained is difficult to score or interpret.

⇒ SUGGESTION

Written records of out-of-classroom behavior should be kept and discussed regularly with teachers in order to check the reliability and meaning of the information

Measuring Student Accomplishment. Measures of pupil outcomes include how pupils think, perform, and feel.

Traditional measures include:

- knowledge and ability measures (what a person knows)
- skill performance measures (what a person can do)
- attitudinal measures (what a person feels or desires)
- interest measures.

Schools are established to facilitate pupil learning; therefore, the ultimate criterion for teacher success is the amount of learning that occurs in pupils for whom he is responsible. Thus, one of the advantages of measuring pupil growth is that it is a direct measure of outcomes that are desired. However, there are a number of disadvantages.

For one thing, there is immediate growth and there is long-term growth. The behavior of a teacher may not contribute much to the immediate learning of a pupil but may have a long-range effect on attitudes and behavior. Or conversely, short-term gains may be lost in the long run, or short-term academic gains may be obtained at the expense of long-term negative attitudes which prevent later learning.

Another disadvantage is the difficulty of adequately controlling the situation so that growth can be attributed to the behavior of a given teacher rather than to a wide range of uncontrolled conditions which impinge on learning. Because of this problem, consideration should be given to the effect of a succession of teachers on a pupil's achievement. This should not be done in lieu of examining the student achievement obtained as a result of individual teachers but should be in addition to this analysis.

Historically, student accomplishment has been avoided as a means for evaluating teachers, primarily because of the difficulties involved. However, recent emphases on accountability of teachers for productivity have caused renewed interest in setting specific student accomplishment goals and attempting to attain them. If the trend continues, it is quite likely to have a significant impact on how teachers are evaluated.

Self-Evaluation. Teacher self-evaluation may be concerned with either classroom behavior, out-of-classroom behavior, or student accomplishment. It differs from other evaluation of teacher effectiveness in that:

- There is no need for involving an external observer in the measurement process.
- Behavioral criteria are determined by the teacher rather than by some external source.

The advantage of self-evaluation seems clear: the teacher has the opportunity for improvement without external threat. The primary disadvantage is that the standards used for evaluation may not relate readily to outside criteria or needs of the school district.

Before implementing a teacher self-evaluation program, a school district should:

- provide teachers with training to help them specify their own goals in measurement terms
- provide teachers with a framework (e.g., an observational system) for analyzing and interpreting their own behavior
- provide teachers with technical competence needed for operating the various new media used for recording their own behavior.

⇒ NOTE

Self evaluation reduces the threat of outside intervention and, therefore, has potential for increasing motivation and creativity. However, it may not serve all purposes of evaluation, since external standards may be ignored and administrative decisions may not be facilitated.

Sampling Information

How Often
to Observe

How often should a principal observe a given teacher? A quick and obvious response is "More than most principals

observe teachers,"* but this gives very little assistance to one seeking guidelines. A more beneficial response to this question depends on a number of factors, including the purposes for the observation and the resources available. To satisfy most purposes, each teacher should be observed in the classroom environment several times annually at different times of the day or in varying types of instruction. Such observations can be a mixture of observation procedures and may be made by appointment or not.

How to
Decide

Consider the following as a means for determining the amount of classroom observation to be done by a principal:

- Specify the amount of time per week which should be spent in teacher evaluation procedures.
- Indicate how long each observation should be and whether the observation should be followed by a teacher conference and written record.
- Determine the approximate number of teachers who can be observed per week, on the average.
- Determine how many times each teacher should be observed annually.

An Example

Let us use an example to see what would happen if the above procedure were followed. Suppose that we create a hypothetical situation in which:

- The principal should spend 5-8 hours per week in teacher evaluation procedures.
- Length of classroom observation is approximately 30 minutes.
- Observation will always be followed by a teacher conference.
- Written records will be kept of observations and conferences.
- There are 60 teachers in the school.

*In an NEA survey (1969), 80% of the responding schools indicated that they evaluate probationary teachers more often than tenure teachers; yet, 85% of the probationary teachers were evaluated no more than twice annually.

For this example, the principal would be able to observe approximately five teachers weekly, on the average; this would allow him to make a systematic observation of each teacher approximately every 12 weeks or only three times annually.

Is this sufficient for accomplishing the purposes established for teacher evaluation in this district? If not, then steps should be taken to either:

- establish more reasonable goals for the evaluation program, or
- modify the procedures established (e.g., spend more time in observation weekly), or
- acquire more resources for doing the task.

If more assistance is needed, then the principal and the personnel in the central office should agree on who and what the nature of the assistance should be. For example, should the vice principal, department heads, consultants, and central office personnel be involved? If so, should their role in the total evaluation process be different from that of the principal?

⇒ NOTE

Some teacher evaluation programs are designed for failure because not enough personnel are provided to do the job adequately. Personnel inadequacies should be relatively easy to identify, and a number of alternatives may exist for remedying the problem.

Who collects information? To evaluate teachers, information should be acquired regarding classroom behavior, out-of-classroom behavior, and student performance. Who collects this information depends on the plan which is implemented, and the following people should be considered when developing a plan:

- principals
- vice principals

- department heads
- subject matter specialists (consultants, supervisors)
- general consultants
- personnel specialists or directors
- peers (other teachers)
- students
- parents

It seems reasonable to expect that different people would collect different types of information. For example, one would expect that a principal of a large high school would collect different types of information from that of the department head or the subject matter specialist. Because of the difficulty of having expert knowledge in all of the subject matter specialties of the various teachers, the principal is more likely to provide meaningful feedback to teachers in the areas of classroom atmosphere, general learning principles, and verbal and nonverbal interaction.

The subject matter specialist or department head, on the other hand, could collect information concerning the appropriateness of the content and activities related to the content. The feedback that he is able to provide to teachers regarding content and activities that are appropriate for the given subject specialty should be of benefit to teachers. The judgments made about these aspects of teaching are part of the specialty of the consultant or supervisor, who should be made to feel a part of the process of teacher evaluation as much as other people who collect and analyze information regarding the teacher.

Difficulties arise with regard to use of information collected by subject matter specialists. Some seem to fear being labeled a "tattler" or to feel that the task of collecting information for evaluation purposes is outside their role. A clear specification of the role of the subject matter specialist and of the use of the information he collects should help to remove some of these difficulties. This specification is the job of the administrator, who has a responsibility to set objectives that help to harmonize the activities of people with the goals of the organization.

Training required for observation and information collection. Training teachers and supervisors in the use of an information collection system will assist in providing a common language for analyzing and discussing the teaching-learning process, for examining the contribution that out-of-classroom activities make to the school program, and for determining student accomplishments.

Prerequi-
sites to
Good Obser-
vation

Most information is collected by means of observation, and good observation has certain prerequisites:

- Some purpose needs to be identified. A person does not just observe, he observes for something. He does not just look but he looks for something specific.
- The more specifically one identifies what he is looking for, and the more systematically he plans for observation, the more likely it is that he will know something following the observation.
- What is seen needs to be systematically recorded and organized in relation to purposes.
- What is observed needs to be subject to checks and controls, in order that some determination can be made of the validity, reliability, and precision of the observation.

Limits to
Observation

Observation is direct. It is not an indirect predictor of behavior as a test is, but rather tells something directly about the behavior of teachers. As a result of this directness, it has some limits. For example, some events cannot be predicted and, therefore, are difficult to observe. A teacher who has a very sensitive ability to handle delicate human relations problems in the classroom may not be able to demonstrate this for an observer because of the difficulty of predicting when an appropriate situation will occur. Likewise, the duration of events is a very practical limitation to observation of classroom events. It sometimes is hard for an observer to see the continuity and sequences of events that make some teachers extremely effective.

Once the prerequisites to good observation have been provided, what about the act of observing? The observer's mental set during observation is quite important. Otherwise, he cannot interpret gestures, expressions, etc.

This means that he must know something about the context within which he is observing, and implies that he should:

- discuss the situation which he will observe with the teacher prior to observing
- confer with the teacher following the observation to check his own understanding of the context
- develop his own understanding of the impact of contexts on both students and teachers.

An observer's introspection and experience can be both a hindrance and a help. It can cause him to overlook and misinterpret as well as to be very shrewd in perceiving subtle differences.

SUGGESTION

Observers of teacher behavior and classroom interaction should develop means for checking their own reliability; this usually means comparing observations with another observer and the teacher being observed.

Because an observer is usually responsible for knowing something about the situational context, the interaction among people, and individual behavior, he should attempt to increase reliability of observation by:

- adequately defining what is to be observed
- examining his own background and experience to determine whether it might be distorting his perception
- establishing categories which assist in recording behavior
- comparing observations with others to help establish and maintain reliability.

Summary: Collection of Information

Collection of information implies the use of a measurement procedure. Because of this, one might reasonably

raise the question of how to develop the characteristics of a good measurement device for collecting information to evaluate teachers.

The three major characteristics of a good measurement device are validity, usability, and reliability. To acquire validity, it is necessary to decide what is important in a given situation. To develop a usable plan for collecting information, it is necessary to make it as simple and streamlined as possible. To develop reliability, it is necessary to train those who are involved in collection of information. Likewise, training is required to obtain validity and usability.

Some guidelines for development of information collection procedures for use in evaluating teachers include:

- School board policy should identify all purposes of evaluation, specify general procedures to be used in evaluation of personnel, and identify what types of data the school board desires in order to provide information to the public and to set policy.
- All new teachers should be oriented to the total procedures used, as well as the forms and reports that will be used.
- Vice principals and department chairmen should be involved in evaluation procedures, and all persons involved should be acquainted with their role.
- Student reactions to teacher behavior and to classroom activities should be encouraged on an anonymous basis at the option of the teacher.
- If peer evaluation is used, training in making honest and helpful comments should be provided.

Post-Observation Conferences, Communication

In the same manner that clear and precise communication is essential to establishment of acceptable purposes for teacher evaluation, excellent communication between teachers and evaluators is essential in the post-observation conferences and formal reports. Every classroom observation should be followed by a discussion between the teacher and the cooperating evaluator(s), and this discussion

should take place as soon after the observation as possible. There should be open communication regarding what will be reported to the central office, and written copies of any report should be given to the teacher.

When to Make Post- observation Decisions

Since one of the functions of the total evaluation process is to make decisions possible, one of the first considerations an evaluator must face is when he will make the decisions that are based on observations. He has three choices; he can make the decisions:

- before the post-observation conference, allowing him to use the conference for informing the teacher of the decision or
- during the conference, allowing the teacher to be a part of the decision process or
- following the conference, using the conference as an opportunity to collect additional information that might be pertinent to the decision.

Some practitioners favor one or the other of these times for all decisions, but others tend to make a choice in terms of the purpose to be accomplished by the particular conference or decision. For example, if a certain decision needs to be made regarding classroom procedures and the evaluator is providing information to be of assistance to the teacher, the decision might be made during the conference. However, if a decision is to be reached regarding retention of the teacher, the evaluator may delay the decision until following the conference in order to use the information obtained from the conference (or possibly from other sources) to make the final decision.

Research Results

Research on the use of post-observation conferences indicates that the following statements are warranted:

- Criticism has a negative effect on employees; it tends to build defensiveness.
- Praise has very little effect on future productivity.
- Mutual goal-setting for the future improves performance.
- Assistance and coaching effects better results when it is done daily rather than once yearly.

- Teachers accept decisions more readily if the focus is on improving performance and the situation.
- The number of improvements that can be accomplished at any one time is limited; therefore, one should choose a few and focus on them. (This probably implies the need to develop a specific strategy for assisting teachers.)

Developing a Plan for Conferences

To develop a workable plan for post-observation conferences, the following suggestions should be considered:

- Provide a written guide to aid principals and supervisors in conducting post-observation conferences.
- Provide demonstrations and conduct practice sessions.
- Discuss how the following topics and activities can be included in the post-observation conference:

--purpose of the interview

--description of favorable information (feedback should be honest rather than effusive praise)

--discussion of weak aspects of performance (constructive criticism must be given in friendly, cooperative spirit)

--asking for reactions

--responding, discussing (help the teacher to know how well he is doing and what is expected)

--considering appropriate action with teacher

--determining what additional information is needed, when it will be sought

--planning the next steps

--concluding the interview

Sources of Conflict

The primary problem with the follow-up conference is that it can evolve into a conflict situation which creates a gap between administrator and classroom teacher. This is especially true if:

- there is no pre-observation conference to establish goals and study the context
- there is no agreement on roles and responsibilities
- there has been no assistance given to the teacher in planning his work
- there is no assistance given in the post-observation conference (only discouragement)
- there is no opportunity for feedback regarding how well the administrator is doing his job.

If an administrator or supervisor is concerned with the possibility that a conflict situation might arise and desires to take steps that might reduce the gap between himself and a classroom teacher, then he should:

- establish open, authentic communication with teachers
- seek agreement between the goals of the school system and the individual aspirations of teachers
- be willing to be evaluated by teachers on those aspects of his job which affect the teachers.

Especially pertinent to the open communication between administrators and teachers is the necessity to maintain open files of formal written evaluations. When teachers know what is written regarding their performance and what is reported to the board of education, anxiety and rumor are reduced.*

Assessment of the Teacher Evaluation Process

Because evaluation of teachers is an evolving process, the policy adopted by any local board of education should include plans for the periodic review of the evaluation program. Since the plan for evaluation should be comprehensive enough to examine the entire evaluation program, the means for gathering information about the effectiveness of the evaluation process should be planned at the same time the evaluation procedures are planned.

*A short analysis of authentic and phony communication, as it may relate to open files, is provided in Appendix 1.2.

Analysis of Problems

An analysis of the difficulties in the total evaluation process includes the necessity to examine the realism of the goals of the process, the effectiveness of the teaching procedures, and the adequacy of implementing the procedures decided upon. In examining all of these aspects of the evaluation process, one should seek answers to the following questions:

- Is the instruction improving?
- Are teachers receiving assistance?
- Are students learning?
- Are teachers with problems improving?
- Are consistently ineffective teachers being selected out?
- Do teachers understand what is expected of them?
- Is adequate information being provided to be able to improve the selection process?
- Is the board of education provided adequate information for making personnel and policy decisions?

Use of Exit Interviews

Some of these questions may be answered by obtaining answers from teachers or administrators, students, or parents. Others may be answered by interviewing those teachers who either resign or are released. Businesses and industry use the exit interview very effectively to acquire information regarding:

- why individuals leave the organization
- employee's perceptions of problems in supervision and evaluation
- employee's perceptions of problems in selection and placement procedures.

Integrated Personnel Program

One aspect of the evaluation procedure which should be assessed is how well it is functioning with respect to other personnel tasks such as selection, supervision, and inservice training. If a problem exists, one procedure which may help to integrate all of these functions is to involve principals and supervisors in all of the personnel

functions mentioned, viz., selection, evaluation, supervision, and inservice training programs.

Training
Evaluators

Other problems of teacher evaluation may not be solved easily, and additional training may be needed. Even the best principals and supervisors may need to be trained to avoid allowing their personal biases and prejudices to affect the accuracy of observations. They may need to be trained in using observation procedures which use definitions of behaviors to be observed and standards to be applied to each behavior.

Public school systems treat the training of evaluators much more casually than industry does, in spite of evidence that training is likely to increase:

- validity of decisions
- reliability or consistency of decisions
- discrimination of measurement
- feelings of certainty regarding decisions.

Procedures which are used by many businesses and industry and some school districts for improving the performance of evaluators include:

- elective inservice courses
- university courses
- group meetings devoted to evaluation
- general explanations given at regular administrative meetings
- workshop or clinic lasting from one to three days (including assistance from outside consultant, practice, discussions, use of multimedia presentations)
- written documents or manuals
- individual consultation

The assessment of the teacher evaluation process should involve adequate planning for ways of gathering information, asking questions that are pertinent to the purposes

of the program, use of exit interviews as well as direct observation, and use of training procedures to assist in eliminating errors.

Starting a Comprehensive Personnel Program

This chapter has presented some views of current practice and research results regarding the selection and evaluation of teachers. Many of the comments have been inferences obtained from either research or practice, and there has been an attempt to write the ideas so that they would be applicable to practitioners.

Approach to Evaluation

The approach for the evaluation of teachers assumed the need to develop evaluators who are accurate observers of behaviors that teachers, supervisors, and administrators consider important. The implications of such an approach are:

- Principals and supervisors must develop their own skills of observation.
- Teachers must help in the determination of the type of behavior that is important to observe. (Principals and teachers must all reach some agreement on these behaviors and they must be defined in such a way that this agreement can be reached.)
- Both teachers and principals can anticipate that their own views might change. (But a healthy optimism should allow a person to perceive this as a change for the better--one is not too old to learn new things.)
- The post-observation conference between teacher and principal or supervisor puts both the teacher and the principal in a vulnerable position. The teacher is vulnerable because his most important skill is being observed; the principal is vulnerable because his skill of observation and ability to help is being judged as either accurate or inaccurate, valuable or not beneficial. Therefore, it is extremely important that each approach this discussion from a mature view, with goals clearly in mind and quite aware of the fact that goals might change.

Plan for
Implementing

The plan for implementing such an approach includes ways to develop skills in observing, analyzing, interpreting, and evaluating information; further, the skills should be used in that order. Once the first three are used correctly, the last one should be much easier to develop.

Reminders
to Initiate

The following are reminders which should be heeded to initiate such a program:

- Observation aids need to be developed for local situations, i.e., for what is considered to be important in given school district. These should not be thought of as evaluation sheets which criticize harmfully.
- All items of interest may not be observable at one time; therefore it may be necessary to observe the classroom many times.
- The goal is to describe behavior accurately, not to compare behavior against a given reference group or in good-bad terms.
- The ultimate goal is to promote honest interaction between the teacher and the principal, between the principal and the central office personnel so that all can learn to be more effective.

Many aspects of the approach to evaluation described are also pertinent to the selection process, since they are interrelated in many ways. However, another relationship bears mentioning: research indicates that a teacher with an unfavorable attitude benefits less than one who views evaluation positively. The implication of this research is that one should select teachers who have an attitude that will allow them to benefit from evaluation.

Getting
Started

To start an integrated personnel program which attempts to capitalize on the interrelationships among selection, evaluation, supervision, and inservice training programs, many factors should be considered. To work well, the program must be suited to the particular organization, supervisors and principals must be trained, and everyone must be aware of the problems which might occur and how they can be avoided. Suggestions include:

- Start on a limited scale (perhaps with the administrative staff).
- Make outside consultants accessible to principals and supervisors.

- Do not be misled by numerical systems, since numbers themselves do not increase validity.
- Interpret ratings and observations accurately.
- Observe an adequate number of times, discuss observations often.
- Plan the total system with teachers, specialists, administrators.

Chapter 2

PROCEDURES

Phases

The general purpose of this study was to facilitate the improvement of school personnel practices by providing research and development information regarding selection and evaluation of teachers to be used by practicing administrators, teachers, and board of education members. To accomplish this purpose, it was necessary to acquire information, estimate its pertinence, and synthesize the information in a written report. Therefore, the procedures used included three phases: (a) information acquisition, (b) information analysis and interpretation, and (c) information synthesis and reporting.

Information Acquisition

The duration of the project was nine months (December 15, 1969 to September 15, 1970) and the information acquisition phase covered the first 7 1/2 months. It consisted of the following steps:

Written Information

Identification and location of written research and development information:

- search of library documents, journals, indexes, abstracts, reviews, encyclopedias, and books
- computerized search of USOE research through a Region IX facility; screening of printout and acquisition of pertinent items
- computerized search of documents stored in ERIC through the Clearinghouse of Educational Administration at the University of Oregon; screening of printout and acquisition of pertinent items.
- printout from DATRIX, screening and acquisition of pertinent items
- correspondence with all ERIC centers and acquisition of suggested items
- correspondence with research personnel known to be involved in related current investigations

Practices:
Schools

Investigation of current practices of public schools:

- development, testing, and mailing of questionnaires* to 26 of the 40 largest school districts in the U. S. and three suburbs of each of these large districts, where it was thought most innovative practices would be found. The districts were chosen in such a manner that all geographic regions of the U. S. were represented. A listing of the districts is provided in Appendix 2.4.
- acquisition and analysis of questionnaires* and written documents from the 32 districts who responded.
- interviews* with personnel in 30 of the districts (representing 13 states) that responded to the questionnaire.

Practices:
Business and
Government

Investigation of current practices of businesses and industries, and governmental agencies:

- development, testing, and mailing of questionnaires to 95 medium-to-large businesses and industries. The companies were chosen from a listing in Fortune (see Bibliography), representing various types of industries; the initial listing was expanded on advice from the Advisory Committee and professors of business administration at the University of Washington. A listing of the businesses and industries is provided in Appendix 2.5.
- mailing of a similar questionnaire to 19 governmental agencies, listed in Appendix 2.6.
- acquisition and analysis of questionnaires and written documents from the 61 companies and governmental agencies who responded.
- interviews with personnel in 18 businesses and 5 governmental agencies in 10 states.

Information Analysis and Interpretation

The information analysis and interpretation overlapped the information acquisition stage, extending from approximately January 15 to August 1, 1970. It consisted of the following steps:

*Copies of the questionnaires and structured interview forms used are provided in Appendices 2.1, 2.2, 2.3.

Written
Information

Analysis of written research and development information:

- A procedure was devised for classifying and assigning items to the research staff.
- As sources were read, ideas were abstracted, recorded and filed by author.
- Information was discussed by the research staff and a system was devised for organizing and relating ideas.

Questionnaire
Information

Analysis of questionnaire information to determine where exceptional practices were located and where interviews should be conducted.

- Procedures were designed and checked with the Advisory Committee to note exceptional practices and make decisions regarding where interviews should be conducted.
- Organizations which deviated significantly from the average and the type of activity in which they deviated were identified from summarized data.
- The location of exceptional respondents was plotted on a map to determine where clusters of exceptional organizations existed.

On the basis of number and type of exceptional practices, and location of the organization, decisions were made regarding which organizations to visit; an interview schedule was then established and appointments made.

Interview
Information

Analysis of interview information and written information from organizations.

- Notes were dictated by the interviewer immediately following interviews.
- Notes were edited by the interviewer(s). (Note: most interviews were conducted by two interviewers.)
- Interview notes and written information provided by organizations were read and discussed by the research staff; unusual procedures and results were identified and comparisons among organizations were made.

Information Synthesis and Reporting

This stage of the project overlapped with both of the prior stages, extending from approximately April 15 to August 31. It consisted of the following steps:

Organizing the Ideas

Development of a system for organizing related ideas.

- Single ideas were identified from initial sources.
- The relationship of the single ideas to each other and to the initial organizational outline was discussed.
- The organizational outline was revised and the single ideas classified according to the new outline.

Preliminary Draft

Production and editing of a preliminary draft of the report.

- Sections of the outline were assigned to members of the research staff.
- Initial drafts were written by individual members, discussed and edited by the total staff, and rewritten; final editing was done by the principal investigator.
- The preliminary draft was critiqued by the Advisory Committee, two graduate classes in educational administration at the University of Washington, and practitioners in educational administration.

Final Draft

Production of the final draft of the report.

- Critiques of the preliminary draft were analyzed by the research staff.
- Decisions were made for modification of the content, organization and format of the report.
- New assignments for writing were made.
- Material was rewritten, edited, and reproduced.

Summary

The procedures used in this project allowed considerable subjectivity regarding what should be included in the final report, i.e., what should be included because it is pertinent to the intended audience. However, as

information was acquired and analyzed, an effort was made to include different points of view, to report research results and current practices in an impartial manner, and to organize ideas so they would be meaningful to practitioners. There was also a conscious attempt to let the ideas themselves influence how they should be organized. Finally, the ideas included in this report have been edited and critiqued by many people in an attempt to increase the objectivity of the final results.

Chapter 3

THE SELECTION OF TEACHERS

Many people consider the teacher selection process as a single-stage operation consisting of making a choice during an interview. However, the process includes several separate but interrelated activities.

Tasks in the Selection Process

Tasks necessary for completing the selection process include:

- Determine the total number of teachers needed and make a complete position analysis for each vacancy.
- Establish standards for teacher performance appropriate to the situation being considered.
- Recruit applicants for the positions.
- Describe the applicants accurately on a variety of factors after acquiring various types of information from different sources.
- Predict behavior of each applicant in the situation for which he is applying.
- Compare predicted behavior of each applicant with the desired standards of teacher performance in order to make judgments regarding the degree to which each standard would be satisfied.
- Make choices among applicants.
- Establish controls for the total process by analyzing sources of error.

⇒ NOTE

The selection of teachers involves a variety of tasks; these tasks may be performed by a single person or independently by several people. Where several people are involved, each should understand the total process and his contribution to it. (viewpoint: research staff)

Obviously, one person need not do all of the tasks. For example, the position analysis need not be made by the same person who conducts a recruiting campaign. Where several people are involved it appears equally obvious that coordination and identification of roles are necessary to make good decisions and to reduce conflict among individuals.

The tasks in the selection process are designed for persons to collect information which may be used to predict on-the-job behaviors of applicants and to relate these behaviors to the operation of the organization. These tasks are necessary to ascertain the relative merit of each applicant for a specific assignment, but the tasks themselves do not describe the teacher selection process adequately.

Additional
Considera-
tions

A more adequate description of the selection process includes the following items:

- The person selecting teachers makes an institutional, rather than an individual, decision.
- A quota is followed rather precisely.
- Information gathered to describe applicants represents a variety of dimensions.
- Usually the decision to select or reject is made at any one of various points in the sequence of information gathering, i.e., sequential tests or sequential hurdles are used.
- In all teacher selection decisions, one of the acceptable choices is "reject."
- Each teacher applicant is given a single assignment.

This description emphasizes the aspect of deciding which applicants are most suitable for a position. However, it does not consider what the quota should be or how many (if any) of the applicants should be hired at a particular time. These problems must be incorporated in the total process, but they involve processing of different data.

The Development of Criteria for Teacher Selection

One of the first tasks necessary in implementing the teacher selection process is to determine what teacher behaviors or results-of-behavior should be used for making decisions about which applicant will be hired or rejected. However, before these job criteria or standards are determined, a school district must identify the number of teachers needed to successfully meet its goals. Consequently, this section will focus on two major topics regarding the teacher selection process: personnel need determination and criteria determination.

Personnel Need Determination

Definition

Need determination is a process through which an organization identifies the personnel, materials, and facilities needed to accomplish the goals and purposes of the organization. Determination of school personnel needs must include consideration of the number as well as the type of individuals needed. This is done to match personnel with the unique aspects of each position so that goals can be accomplished and satisfaction on the part of the individual hired can be attained.

How Are Personnel Needs Determined?

Presently, many school districts employ some arbitrary pupil-teacher ratio or some extrapolation from prior activities to identify the number and type of new teachers needed.

In industry, on the other hand, personnel needs are determined on the basis of a detailed annual plan of operation that is updated quarterly or semi-annually. This plan of operation generally involves the establishment of broad goals at high levels in the organization, which are translated into specific objectives at the level which requires materials and manpower.* Therefore, needs are determined by agreement on objectives and means for obtaining these objectives; once agreement is reached, individual units can be flexible in accomplishing these goals.

In school districts where such agreement and flexibility exists, individual schools or departments within the school may have the opportunity to invest in teacher aides

*These procedures are often described as "management by objectives" and are directly related to Planning, Programming, Budgeting Systems (PPBS) which are becoming more widespread in education.

or secretarial assistance in a way that they consider to be most efficient and effective for them.

⇒ SUGGESTION

Determination of school personnel needs should be based on an annual plan of operation (rather than on some arbitrary pupil-teacher ratio or extrapolation from prior activities); developing such a plan requires:

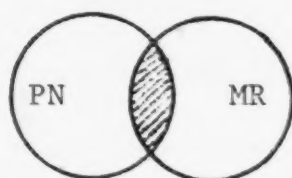
- *reexamination of goals*
- *reexamination of means for accomplishing goals.*

(practice: industry)

In addition to determining personnel requirements according to number and types of positions, many districts now take into account the need for teachers who are members of certain minority groups, e.g., Chicano, Indian, Black. Generally, the basic plan for such needs is made in the central office and transmitted to principals.

A New Needs
Determina-
tion Approach

A new technique which may be applicable to determining teacher personnel needs has been developed by Clement Brown (1968) for determining continuing education needs of physicians. The technique is different in that: (a) a diagnosis of needs is made prior to "educational therapy," and (b) the continuing medical education program is directly related to the needs of patients. More specifically, the method has three major parts: patient needs, medical resources, and physician accomplishments. In terms of what can be done for patients, envision two partially overlapping circles, one circle designated "patient needs" (PN), the other "medical resources," (MR) (See Figure 3.1.)



PN = patient needs

MR = medical resources

Figure 3.1. Patient Needs and Medical Resources Overlap.

The overlapping area represents realistically those patient needs that can be met realistically by the current medical resources that are available, or the medical resources which are facilitating patient needs. Next, envision a third circle, labeled "physician accomplishments" (PA), which partially overlaps the other two circles. (See Figure 3.2.)

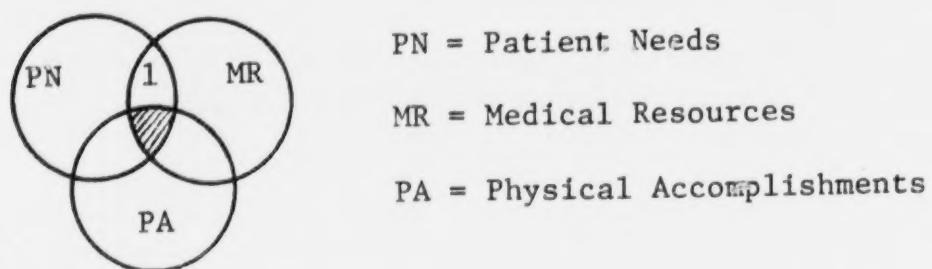


Figure 3.2. Interaction of Patient Needs, Medical Resources, and Physician Accomplishments.

The overlap of the three circles, or the shaded area in Figure 3.2, represents what actually is being done. The part of the patient needs-medical resources overlap that is not overlapped by physician accomplishment (labeled Area 1 in Figure 3.2) indicates the objectives which Brown sees for continuing medical education. That is, rather than spending time dealing with continuing medical education programs which stand little chance of helping those patients who, for example, have non-preventable disabling diseases, Brown's needs-determination model points out the necessity to identify those disabling diseases that can be prevented but which physicians are not handling adequately. In short, the technique is a rational approach which allows for setting continuing education priorities.

Adaptation to Education

In adapting this model to determining school personnel needs, envision student needs in place of patient needs, educational resources in place of medical resources, and school or staff accomplishment in place of physician accomplishment. (See Figure 3.3.)

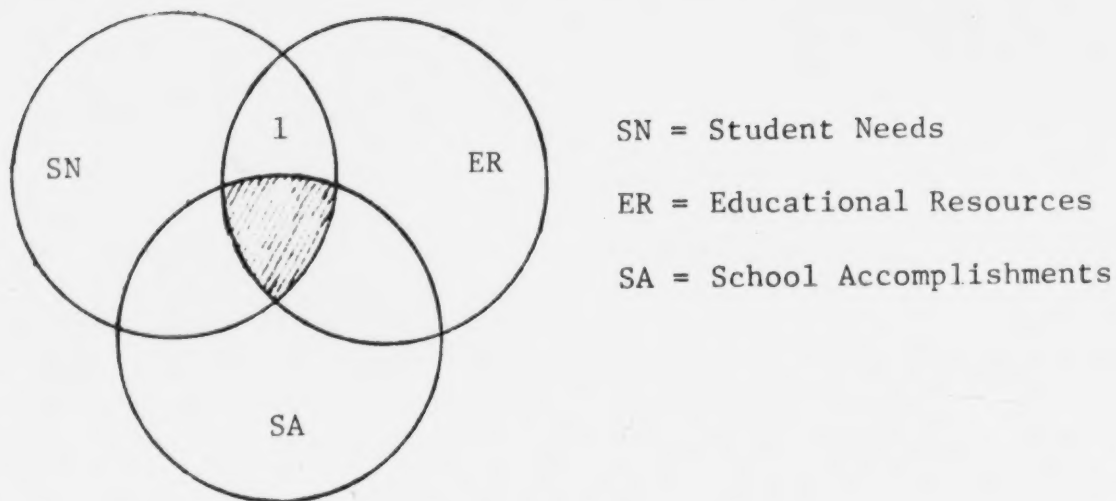


Figure 3.3. Interaction of Student Needs, Educational Resources, and School Accomplishments.

The overlap of the three circles (i.e., the shaded area in Figure 3.3) indicates what the school or staff is currently doing to meet students' needs. The part of the student needs--educational resources overlap that is not overlapped by school or staff accomplishment (labeled Area 1) suggests those student needs for which resources are available and which realistically can be accomplished by the school or staff if proper attention is given.

To implement this technique the following procedures should be followed:*

- Have teachers and principals identify the needs of their students.
- Have teachers and principals identify those needs that education has the resources and ability to meet.
- Have teachers and principals identify those student needs that are being satisfied by the personnel currently available.
- Based on the residual, identify areas in which current personnel can be given additional training, and establish a search for new personnel to fill voids current staff cannot fill.

This last step is designed to help fill the vacant space of the student needs--educational resources overlap.

*These procedures are adapted from a paper delivered by Brown at the Conference Workshop on Regional Medical Programs, Washington, D. C., 1968.

In short, this procedure provides the personnel worker with some assistance to rationally determine personnel, as well as materials, facilities, and inservice training needs. It also helps identify those student needs which the school should be meeting given the current educational resources, but which are not being met because of lack of application of those resources by the school or staff.

⇒ SUGGESTION

Determination of school personnel needs may be based on an analysis of students' needs, educational resources, and school or staff accomplishments. (viewpoint: Brown, 1968)

Overhiring

What happens when overhiring has occurred? How does this situation affect the selection process? When overhiring has occurred, industry has approached the problem differently from most school districts. Since industrial needs fluctuate rapidly at times, some industries have attempted to control the need for hiring by initiating training sessions for employees during slack periods rather than reducing the work force and then spending money for re-acquisition.

⇒ SUGGESTION

When overhiring occurs, school districts should consider using available personnel in alternative ways (rather than simply modifying the pupil-teacher ratio) in order to increase the long-range effectiveness of the system. (practice: industry)

At least two possibilities are reasonable in most situations of this type:

- Special training sessions can be established for people who are having difficulty or who need to acquire special skills.
- Certain persons on the staff can be released to accomplish special needs such as research.

Although decision problems would be created in determining who should be involved in the special activities, this procedure is potentially more beneficial than simply modifying the pupil-teacher ratio.

⇒ NOTE

Accurate estimates of personnel needs sometimes are influenced by the consequences of previous misestimates. (practice: schools)

Where principals are responsible for estimating needs for personnel in a building, and when they are not likely to be required to transfer teachers to another building if an overestimate occurs, they tend to be liberal in their estimates of enrollment (and consequent teacher needs). Conversely, conservative estimates tend to occur when transfers are required.

Criteria Determination

Once the decision has been made to hire new personnel, it is necessary to determine criteria to be used in selecting new teachers. To accomplish this task, the following must be done:

- The nature of the criteria to be used must be understood.
- The important aspects of the position(s) to be filled must be analyzed.
- The best means for deciding on which criteria will be used for specific teaching positions must be determined.

Doing these three things effectively increases the probability of choosing the best teacher for each job.

Nature of criteria. What is a criterion or what are criteria? A criterion is defined as a standard, rule, or principle, which is used to judge the value or utility of something. That is, it serves as a standard against which comparisons may be made, e.g., a criterion of a

good major league baseball pitcher may be that he wins at least twenty games a season.

In teacher selection, a criterion is considered to be those behaviors or results-of-behavior which the personnel worker is trying to predict. The personnel worker attempts to determine certain attributes or performances of prospective teacher candidates which will assist him in selecting those individuals who can successfully perform on-the-job tasks. Consequently, in the selection process, the personnel man initially specifies standards of successful teaching for a given situation; he then identifies, through study and experience, those variables which will help him predict which candidates will meet the criteria of a "good" teacher for this specific situation.

Criterion Problems

Historically, the teacher selection process has been geared to predict only a single criterion. Inherent in such an approach has been the assumption that there exists a single ultimate standard expressed by some general overall factor which represents what a "good" teacher is. Although the use of an ultimate criterion would be advantageous, the fact is that such an outlook is a distortion of reality since the nature of the task to be performed has many complex facets and is constantly changing because of new inputs.

The fallacy of the single criterion lies in its assumption that everything that is to be predicted is related to everything else to be predicted--that there is a general factor in all criteria accounting for virtually all of the important variance in behavior at work and its various consequences of value. (Guion, 1961:145)

It has been known for some time that criteria change from time to time and from one situation to another, and that there are many aspects contributing to job success (Guion, 1961; England and Patterson, 1960; Ghiselli, 1956; and others). For example, Forehand and Gilmer (1964) found that criteria of job performance change, not only as a result of the growth and development of a particular job position, but also because of the vigorous functioning of the organization over a period of time. A case in point is the research by Bass (1962), which showed that after three years, meritorious performance of good salesmen was more contingent on esteem and popularity than on ability. An example of the effect of organizational

factors on teacher behavior is the study conducted by Wilk and Edson (1963) in which they looked at student teacher responses to multi-sized groups. They found that classroom placement variables had a significant influence on student teacher performance.

Recognition of the complex and changing nature of criteria concerning teacher selection has been evident for some time. Exemplars of this recognition are quite evident in the literature regarding teacher effectiveness, e.g., see N. L. Gage's chapter, "Paradigms for Research on Teaching," in his Handbook of Research on Teaching (1963) or the Flanders article, "Teacher Effectiveness," in the Encyclopedia of Educational Research (1969).

⇒ NOTE

In developing criteria for teacher selection, consideration must be given to the complex interaction of teacher behavior, learner behavior, and environmental factors in the teaching-learning process. In addition, it must be recognized that with the passage of time these individual and situational variables change.

Understanding that the nature of criteria for teacher selection are complex and dynamic, how does one go about identifying and deciding what the actual criteria should be? It is the purpose of the next two sections to deal with this question.

Job dimension specification. The first step in identifying criteria for teacher selection is development of a position analysis from which to infer the criteria important for job proficiency. The purpose of the position analysis is to gather and analyze data about the nature and conditions of a position so the personnel worker can:

- identify what is important for selection and evaluation purposes
- determine how to measure what is important
- communicate to the prospective new teacher the major and minor aspects of the position

- provide guidance for setting up inservice training programs
- infer what information might be collected that would help predict the success of the applicant on the job.

Scope of Position Analysis

The scope of position analysis, in industry, generally includes both an analysis of the job (e.g., the job title, the procedures of work, the physical conditions of work, the relation of the job to other jobs, and the conditions of employment) and an analysis of the employee (e.g., physical characteristics, psychological characteristics, and demographic data).

The scope of position analysis, in education, is somewhat similar to industry and government; however, as Gilbert, et al. (1966) indicate, following their survey of 320 large school districts in the United States, only five percent used a specific job description form, and there was a trend which suggests that as the size of the school district increased, the specificity of information in the job descriptions decreased.

All too often, position analyses are superficial and global. A common tendency is to stereotype desirable qualities in a teacher; however, lists of general qualities are of little value to criterion development. What is needed is an accurate description of the job, and, as Thorndike (1949) suggests, "...an examination of worker characteristics in relation to the job."

It is important that position analyses be made and updated frequently for each teaching position (Ellsbree, 1959; Mahoney, et al., 1963). The major reason for this results from the nature of criteria, which is affected by the unique aspects of each teaching situation and the complex and dynamic relationship of the existing environmental factors to the behavior of teachers.

In conducting an analysis of a position, the basic question that is trying to be answered is, "What must the individual do and what characteristics must he possess to be a success?" Basically, this is the same question instructional designers ask in the development of curriculum and course objectives, i.e., "What must the learner do to successfully attain the instructional objectives, and what prerequisite knowledges or skills must he possess?"

Whether the object of focus is selection or instruction, the answer to the question, "What is important..." provides the essential criteria for success.

Palmer (1970), in studying the effect of using a completed position analysis outline (PAO) on selection decisions in a simulated teacher selection situation concluded that the PAO had an effect on the behavior predicted and ranking of certain applicants. This result indicates the potential for using a PAO in the teacher selection process. The fact that the completed PAO provided subjects with a more explicit criteria upon which to base selection decisions was consistent with the notion that different applicants may be viewed differently as "a result of explicit criteria" (Palmer: 1970, 47).

The following position analysis outline is the one developed by Palmer in his research:

- I. General Nature of the Position
 - A. Broad goals of the system
 - B. Organizational structure of the system
 - C. General expectations of the teacher
 - 1. In the classroom
 - 2. In relationships with members of the organization
 - 3. In relationships with external groups or individuals
- II. Static and Dynamic Features of the Position
 - A. What is likely to be more important at the beginning of the assignment?
 - B. What is likely to change?
 - C. What is likely to influence this change?
 - D. How will this position be affected by other people?
 - E. How accepting is the community?
 - F. What is the nature of the students?
- III. Teacher Behaviors
 - A. Required
 - 1. In the classroom
 - 2. In relationships with members of the organization
 - 3. In relationships with external groups or individuals
 - B. Desired
- IV. Teacher Characteristics Sought
 - A. Aptitudes
 - B. Skills
 - C. Social requirements
 - D. Interests
 - E. Physical

⇒ SUGGESTION

Because of the complex and dynamic nature of each teaching position, an accurate and detailed position analysis, developed for each position, aids in making decisions in the selection of teachers. (research: Palmer, 1970)

Final
Criteria
Decisions

Deciding on criteria. Once the position analysis has been made, the next step in criteria determination is to use the information to help decide on what the criteria or standards will be to indicate job success.

What should be considered in choosing criteria? It is recognized that criteria used in teacher selection include both teacher behaviors and/or result-of-teacher behavior. When one is identifying the criteria to be employed for teacher selection, the following ideas should be considered:

- A limited number of behaviors should be identified: this increases the reliability of measurement by staying within the capacity of observers.
- Behaviors should be reliably measurable, operationally defined, and focused on specifics.
- Behaviors should differentiate among individuals and ought not to overlap.
- Behaviors should be related to the purposes of the situation in which they are expected to be exhibited. Behaviors that are considered important must be established in each community--in light of an accepted value system.
- Behaviors should include verbal interactions as well as non-verbal communications, in the classroom as well as out-of-classroom action. The manner in which activities are organized, choice and content, types and sequences of activities and strategies used in teaching are all means of producing certain effects on learners, and are reasonable items to include for observation.

⇒ CAUTION

Because teacher behaviors to be predicted are complex, dynamic, and specific to a situation, long-lasting predictions are not likely to occur. Because of this, the usefulness of certain applicant characteristics to predict on-the-job success should be reviewed frequently. (viewpoint: Guion, 1961; and others)*

Conditions change under which individuals teach, and this affects the behavior that they exhibit and the outcomes they produce. For example, the type of supervision in a given building might change drastically with a change of principals; consequently, more or less assistance with certain activities might be expected. Also, behaviors considered important might change as the student population changes. The changes in these two factors, conditions of work and nature of the student population, are instances of the changing or dynamic nature of the teacher behaviors being predicted and account for some of the difficulty of obtaining long-lasting predictions. Therefore, it is necessary to reexamine the established criteria for each teaching position periodically.

Criteria
Definitions

How should criteria be defined? To insure the quality of selection decisions, the criteria must be defined by specifying clearly the behaviors or outcomes to be measured and the level of performance necessary for success.

⇒ NOTE

Clearly defined criteria not only serve as standards against which comparisons are made, but also guard against misinterpretation. (viewpoint: research staff)

*A more technical discussion of this criterion validity problem is presented in Appendix 3.1.

Who Decides? Who decides on the criteria to be employed and the assigning of the weight to each of the criteria? Generally, the final decision is based on a value judgment of some individual or group. As a result, the worth of the value judgment, and the selected criterion, is dependent on the expertise of the decision maker(s) and the information available for determining the criteria.

⇒ NOTE

Decisions on criteria are improved when based on judgment pooled following empirical validation. (research: DeNelsky, 1969)

If an individual's intuitive judgment, expertise notwithstanding, is the only recourse for determining criteria, the decisions being made are "built on the weakest of foundations" (Guion, 1961). However, there are indications that if individuals pool their judgments, the selection of the criteria will be improved. DeNelsky (1969) found that the pooled judgment of several judges, using a modified version of Stephenson's Q-sort technique, yielded greater predictive accuracy than the judgments of individual psychologists.

Various statistical weighting techniques are suggested by Ghiselli and Brown (1955) as one means to solve the problem of experts subjectively choosing and weighting criteria. However, as Albright, *et al.* (1963:37) point out, "until a comprehensive theory of job performance is formulated [the pooled judgment of experts] is probably as good a method for the practitioner as any."

Involvement of teachers in the development of criteria, and specifically the indication of behaviors desirable for a given position, generally occurs in collaboration with principals. It appears that principals often have the responsibility of precisely defining the job description and they share this responsibility with teachers.

⇒ CONCLUSION

Involving teachers in the development of criteria may serve two purposes: the position may be defined more accurately, and the morale of the professional staff may be increased. (practice: schools)

In addition to principals and teachers, the following personnel are sometimes involved in development of criteria: vice-principal; department chairman; central office personnel, including superintendents or their representatives; personnel directors; and curriculum supervisors. Who makes the final decision regarding criteria determination indicates where the district has placed responsibility for development of philosophies and means of operation.

When the central office controls the final determination of criteria, uniform selection criteria are likely; but where building principals make decisions regarding criteria, there is likely to be considerable diversity in characteristics being sought.

⇒ CONCLUSION

*Where the decision is made regarding determination of criteria is likely to influence the diversity of criteria being sought.
(position: research staff)*

Summary Regarding Criteria

In summary, decisions regarding criteria selection should be made with the following ideas in mind:

- The behaviors desired or the result of the behaviors (i.e., the criteria) should be capable of being measured reliably.
- The criteria should be relevant to the specific situation, that is, they should have acceptable validity.
- Criteria should be updated frequently because each local situation is complex and changes rapidly.
- Criteria should be acceptable to teachers as well as to administrators and other members of the community.

Recruitment

Each school district, once having established general needs and developed more specific job descriptions within

the framework of those needs, cannot actually begin the selection process without a pool of candidates from which to choose. Because selection implies choice, recruitment or the search for enough capable personnel is crucial to the selection task.

In addition to the development of an applicant pool, recruitment is crucial to selection because it is the basis of the quality of candidates as well as the quantity.

⇒ NOTE

Recruitment must attract both a high quality and an adequate quantity of applicants if it is to enhance the selection process. (view-point: research staff)

Generally, the intensity of recruitment is related to the availability of potential candidates from the teacher market.

⇒ NOTE

When a surplus of teachers exists, school systems use rigorous selection procedures; however, when there is a shortage of candidates, school systems must develop and maintain an effective recruitment program as a prerequisite to selection. (practice: schools)

It is axiomatic that no selection program can be effective unless the number of candidates is substantially greater than the number of positions (Fear: 1958), i.e., a systematic selection program cannot compensate for an inadequate number of candidates. A recruitment program must provide an applicant pool that is adequate in number and diverse in characteristics. When the applicant pool is too small, the problems are obvious; and most administrators try to make positions more attractive or to contact more potential applicants. When the applicant pool is at least adequate or very large, there is a tendency to be complacent. Often a careful examination of the recruitment process does not occur.

⇒ CAUTION

Although an applicant pool may be large, evidence should continue to be collected to determine whether modified recruitment procedures might produce more diverse and more highly qualified applicants. (practice: industry)

The large applicant pool may not always contain candidates to fit special needs nor does it guarantee enough high quality candidates.

Because recruitment is continuous, fast moving and competitive, recruitment programs tend to require considerably more money and a disproportionate amount of administrative time (Maloney: 1961), partly due to the fact that some administrators like to maintain personal control of this phase of selection. However, the absolute cost of recruitment should not be considered separate from the results, and there is a continuous need for school districts to monitor recruitment procedures, to measure their effectiveness, and to make appropriate modifications.

⇒ NOTE

The cost of hiring the wrong candidate can be higher in terms of supplementary training, wasted salary, adverse public relations, and lost productivity than the cost of more extensive recruitment would have been. (practice: industry)

Many businesses will expend vast amounts of money and effort each year on personnel recruitment in order to increase productivity and reduce the cost of finding and orienting replacements (Hinrich: 1960). School districts may wish to adopt this business practice.

⇒ SUGGESTION

School districts should analyze their recruitment programs in terms of cost versus results. Such an analysis may increase initial costs, but more effective recruitment programs should produce better long-range results. (practice: industry)

A recent study of recruitment practices in some randomly selected districts in a midwestern state found that the average cost per teacher hired amounted to \$146 (Fitzgerald: 1970). A remarkable and especially interesting comparison occurs when this is compared to the financial effort put forth in business and industry, \$1822 per professional hired.

Fitzgerald also found a lack of written policy and budgeting for recruitment in the districts studied. The project found that often the recruitment program is looked upon as only a scheduling of interviews on a travel itinerary (with occasional advertising). It would seem that if recruitment is important enough for the kind of expenditures noted by business and industry; that if schools do not look upon recruitment as important enough for policy and budgeting; and that if school officials are not seeing recruitment as part of the larger selection process, school officials should begin to seriously examine their recruitment efforts and begin local research.

Recruitment serves more than the immediate function of strengthening an applicant pool. Although forecasts are not clear as to the duration of any current teacher surplus, there seems to be a trend for teacher-training institutions to be more selective in accepting trainees.

Because it may become necessary for school districts to attract those fewer but better trained teachers being produced, recruitment will remain essential to the selection process. If a large surplus remains, recruitment will still serve its function of attracting high quality candidates.

⇒ SUGGESTION

Diverse recruiting practices should be developed for both long-term and short-term needs. (practice: industry, schools)

To accomplish long-term and short-term needs in recruiting personnel, the following suggested procedures are being used by industries, government agencies, and school districts.

- Develop a close relationship with colleges and universities, in order to let colleges know what positions are available and what types of people are needed, and to influence the curriculum being offered to future employees. The procedure for developing close relationships varies, but includes:
 - a. sending the same recruiters to the same campuses annually so they become acquainted with campus personnel;
 - b. sending recent graduates back to the alma mater to talk to seniors and tell campus personnel how well they like their position, and
 - c. providing each campus with a cumulative listing of graduates who have been hired by the organization.
- Sponsor a two-day tour and visit of the district for placement directors.
- Use minority employees to visit colleges to help identify prospective candidates in minority groups.
- Participate in "career day" programs on campuses.
- Provide supervisors, teachers, or principals to talk to classes or groups of students on campuses.
- Send curriculum materials to colleges and universities for use in curriculum classes. (In industry, this takes the form of sending products to campus for examination.)

- Encourage employees to ask friends and acquaintances to apply for employment; in some cases, incentive bonuses are given to employees if a referral is employed.
- Establish a temporary recruitment center in a given geographic center. Advertise in advance to attract inquiries, and send teams to interview those who make requests. This is a procedure used to attract experienced teachers.
- Use a 10-15 minute slide-tape presentation before the interview to acquaint the applicant with the district and give him a more realistic view of the community (or prepare a brochure on the district, including not only salary schedules and promotion policies, composition of student population, etc., but also information on living expenses.)
- Advertise in Afro-American newspapers to attract minority group teachers.

The lack of research on recruitment practices indicates that effects of particular strategies are taken for granted.

⇒ SUGGESTION

Local school districts should invest in research to identify effective recruitment procedures. (practice: industry)

Collection of Data on Applicants

The selection process and its sequence are based on the collection of data on applicants. Without a systematic means for collecting and analyzing information, the differences between candidates are less apparent and precise. Without data the selection decision becomes one of chance.

The selection decision has multiple sources for the information needed. The following list comprises the main sources of candidate data:

- letters of application and inquiry, and résumé
- the application form and personal history questionnaire
- recommendations
- college placement and commercial agency materials
- certificates and licenses
- interview(s)
- paper and pencil tests
- actual performance assessment

Letters of Application and Inquiry, and the Résumé

Although little research information has been found on these sources of information in relation to selection decisions, they are usually unsolicited and the first contact (other than possible recruitment interviews) from a potential applicant. However, the information they supply may be differentiating to some degree. For instance, it could be hypothesized that the spelling and clarity of these initial sources of information may indicate some candidate quality (or lack of it).

⇒ CAUTION

Any decisions made at this point should only be made on the basis of rejection of the obviously incompetent. (practice: schools, industry)

⇒ NOTE

Businesses have indicated that there may be some value in evaluating the applicant's letter in terms of the information he is seeking and what information the applicant has about the employing organization which may have prompted the inquiry. (practice: industry)

The résumé is included in this first group of information sources because it is usually unsolicited and accompanies the letter of inquiry.

⇒ CAUTION

The résumé may not always be a reliable source of information because of the variety of acceptable formats and because its purpose is to make the potential candidate look attractive. The résumé may have been written by a professional agency rather than the candidate. (practice: industry)

The lack of specific information on these sources of data should also indicate the need for school districts to conduct research.

⇒ SUGGESTION

School districts should engage in research to justify the continued use of letters of application, inquiries, and résumés as information for making selection decisions. (viewpoint: research staff)

Application Form and Personal History Information

One of the common personnel practices in industry on which considerable research has been conducted is use of the application form, or its companion, the personal history questionnaire (Dunnette, 1959; Heilig, 1963; Edgerton, et al., 1957)

⇒ CONCLUSION

School districts do not capitalize on the potentially beneficial predictive information contained in the application form and personal history questionnaire. (practice: industry)

The use of the application form as a source of information to predict a candidate's success is based on studies which usually use current employees as subjects. Generally these studies correlate information from the

application blank (often called demographic data; such as age, marital status, number of dependents, years of experience, etc.) with some measure of success (supervisor ratings, salary, etc.).

These correlations become the basis for predictive validity estimates. Those items on the blank which correlated significantly with "success" items are then used to predict the success of new applicants.

Heilig (1963) completed a correlation study between application form data and teaching success. The criterion was the department chairman's judgment of "success." He found that the age when hired, teaching professional society membership, publication, and former military rank were the most frequently occurring predictors of success in individual departments. Specific characteristics for individual departments or divisions of the employment group did vary and "characteristics accepted as predictors of teaching effectiveness did not apply in some departments."

⇒ SUGGESTION

Since application form data do not predict success equally well for all positions, local school districts should develop and validate their own forms. (viewpoint: research staff)

In contrast to the weighted application form, the "personal history" correlates various background topics with criteria which deal with human relations effectiveness and creativity (Edgerton, Feinberg and Thomson: 1957). The predictions made in these studies are concurrent validity estimates; they can cover such items as preferences, attitudes and interpretation of experience rather than being limited to factual items so characteristic of the studies of weighted forms.

Typical of some of the studies conducted in industry is one done by Smith, et al. (1963) who found that the personal history technique was valuable and that it yielded noncurrent validity estimates of .61 and .52 for overall performance ratings.

Recommendations

Most studies indicate that letters of recommendation are either worthless generalizations or have not kept up with

the changes in skill of the applicant. Stone and Kendall suggest that a request for references should cover specific questions such as dates of employment, salary, whether former employer would rehire, basis of judgment, etc., and should seek an appraisal of performance. Most if not all letters of recommendation carried by the applicant are worthless in obtaining an accurate and unbiased appraisal of his personal character or worth to an employer (Stone and Kendall: 1956).

With regard to written materials, the U. S. Civil Service Commission (1961) cautions the employer to be sure that:

- elements in his inquiry form correspond to the more important qualifications of the position;
- he has obtained information from as many persons as possible who have observed the applicant in a variety of situations during, as a minimum, the past five years;
- he includes a letter, signed by the responsible executive, with the form, emphasizing the importance of the evaluation process, presenting a description of the job to be filled, asking for full cooperation, and stressing that the form is confidential and will be used only to evaluate the candidate; and
- he gives greater credence to forms where the narrative indicates that the rater has full information, has seen the applicant in a variety of situations, and has used high standards in his evaluation.

Studies about letters of recommendation do indicate that they contain some worth if they contain discriminating adjectives.

⇒ NOTE

Letters of recommendation from previous employers which describe specific mental ability and precise job success are much more discriminating than those which merely damn with faint praise. (research: Peres and Garcia: 1962)

Peres and Garcia (1962) found that words such as "cooperation" and "urbanity" were poor discriminators in terms of job success. In their study of 625 reference letters, factor analysis identified five factors: (a) cooperation-consideration, (b) mental agility, (c) urbanity, (d) vigor, and (e) dependability-reliability. In another study, Bozarth (1956) found that descriptive comments in the reference letter had little relationship with scores on the Miller Analogies Test and the Watson-Glaser test of critical thinking.

⇒ NOTE

The problems with using letters of recommendation in the selection process seem to be:

- *Validity varies greatly according to the quality of the letters.*
- *Most letters do not discriminate sufficiently among applicants.*

(practice: schools, industry)

This suggests that organizations should begin to train those responsible for the reading and writing of letters of recommendation and begin some local validation of those letters by matching them against the criteria of success previously mentioned. In this way, both consistency of quality in and power of prediction from reference letters should be increased.

Placement Agency Data

For predictive studies not unlike those developed with application forms, information from the candidate's placement agency materials may be worth exploration. Although information from the candidate's placement agency may include information redundant to the application forms, it can be used as a check against the application data. Placement agencies also furnish transcripts, student teaching evaluations, and references and recommendations from college personnel and/or former employers.

Research evidence regarding the valid use of agency information is seriously lacking, and because of the diverse

nature of the agencies and the information they supply, the consistent predictive power of that information is questionable.

⇒ SUGGESTION

School districts should seek a common understanding with placement agencies regarding the need for development of consistently reliable information on candidates. (view-point: research staff)

Certification

It is usually the candidate's responsibility to present evidence that state and local legal requirements have been met and certification or licensing has taken place. Teaching certificates are nearly always prerequisites to being hired; therefore they serve to screen out those applicants who do not legally qualify for consideration.

Interviews

Purposes of
Interview

No part of the selection process is more widely used than the personal interview; most people feel that the interview contributes something to the selection process that cannot be gained in any other way (Fear, 1943). Perhaps this feeling is the result of the personal contact that provides a two-way exchange of information or the opportunity to give information as well as get it (Moyer, 1948; Horst, 1962; Wagner, 1949). Certainly the person interviewed is left with an impression, correct or not, of the entire organization (Moyer, 1948; Hansen, 1960).

⇒ NOTE

Interviews are designed to acquire information about applicants and to provide information to them; the type of information being sought and provided decides the structure and content for the interview. (practice: schools, industry)

For example, where the purpose of the interview is to determine if the individual's aspirations are aligned with

a vacancy in the district; certain questions and areas of discussion are suggested. Also, the interviewer can ascertain that the applicant fully understands the work involved, thereby decreasing later turnover from job dissatisfaction. The amount of time spent in presenting information about the school district depends on the scarcity of applicants and the nature of information provided in other formats. Some districts and businesses use written brochures or slide-tape presentations to supplement the interview.

Interview Design

When designing the total interview procedure, many different factors should be considered, among them the following:

- number of interviewers to be simultaneously involved in an interview
- which people to involve as interviewers
- number of interviews to be conducted per candidate
- number of interviewees to be observed at one time
- nature of the interview
- relation of written information available about the candidate to the interview

⇒ NOTE

The most outstanding characteristic about interview practices throughout the country is their variety. (practice: schools, industry)

The structure of interviews varies from virtually no structure at all, with great flexibility available to the interviewer, to highly structured interviews where questions to be asked are decided beforehand. One personnel director reported that he allows each interviewer to design the interview to fit his own personality. Several industries make use of on-site visits which allow the applicant, as well as his potential supervisor, to become well acquainted with the future working conditions. In some places semi-patterned interviews are conducted to minimize overlap of questions by different interviewers. In that way the applicant is not compelled to answer the same set of questions in a series of interviews.

Interview Sequence

Some idea of the variety in the number of persons who may interview a single applicant, as well as the different patterns of interview sequence, is presented in Figure 3.4. The first box in each sequence indicates the source of initial contact. In some cases this may be simply an unsolicited letter; it may be a letter solicited by publicity sent to the college, or it may be a regularly scheduled interview on campus.

Teachers sometimes help to determine how the applicant will work in a team situation. Also, they may help "sell" an applicant on a position or provide information to assist him in making a decision.

Usually, at least one interview is arranged with a person high in the organization, another with the principal or the academic supervisor, and sometimes a peer is utilized in order to give the applicant a complete picture of the organization. Sometimes principals or consultants are asked to make composite ratings on applicants subsequent to ratings on specific qualities. Where this happens, the personnel department usually analyzes the data and makes a final decision. When the final decision is not made by the personnel department, the principal is often asked to indicate a preference among applicants.

Industry makes use of similar sequences; the head of the personnel department makes similar decisions to those of the superintendent of schools, and the department supervisor plays an analogous role to that of the principal. In addition, many industries are concerned that applicants have done some "homework" on the industry, demonstrating their interest by acquiring considerable information about the company before making application for work there.

Interviewer Training

Another source of variety in interview practices is the amount of training given to interviewers. One school district reported a full two-day workshop is devoted to training. More generally, schools and industries tend to devote an hour or two at the most; some were as casual as "an informal discussion in the car on the way to the college to interview." The use of training manuals for interviewers was found in a few cases. Occasionally, if untrained interviewers were used, a trained or experienced interviewer accompanied them.

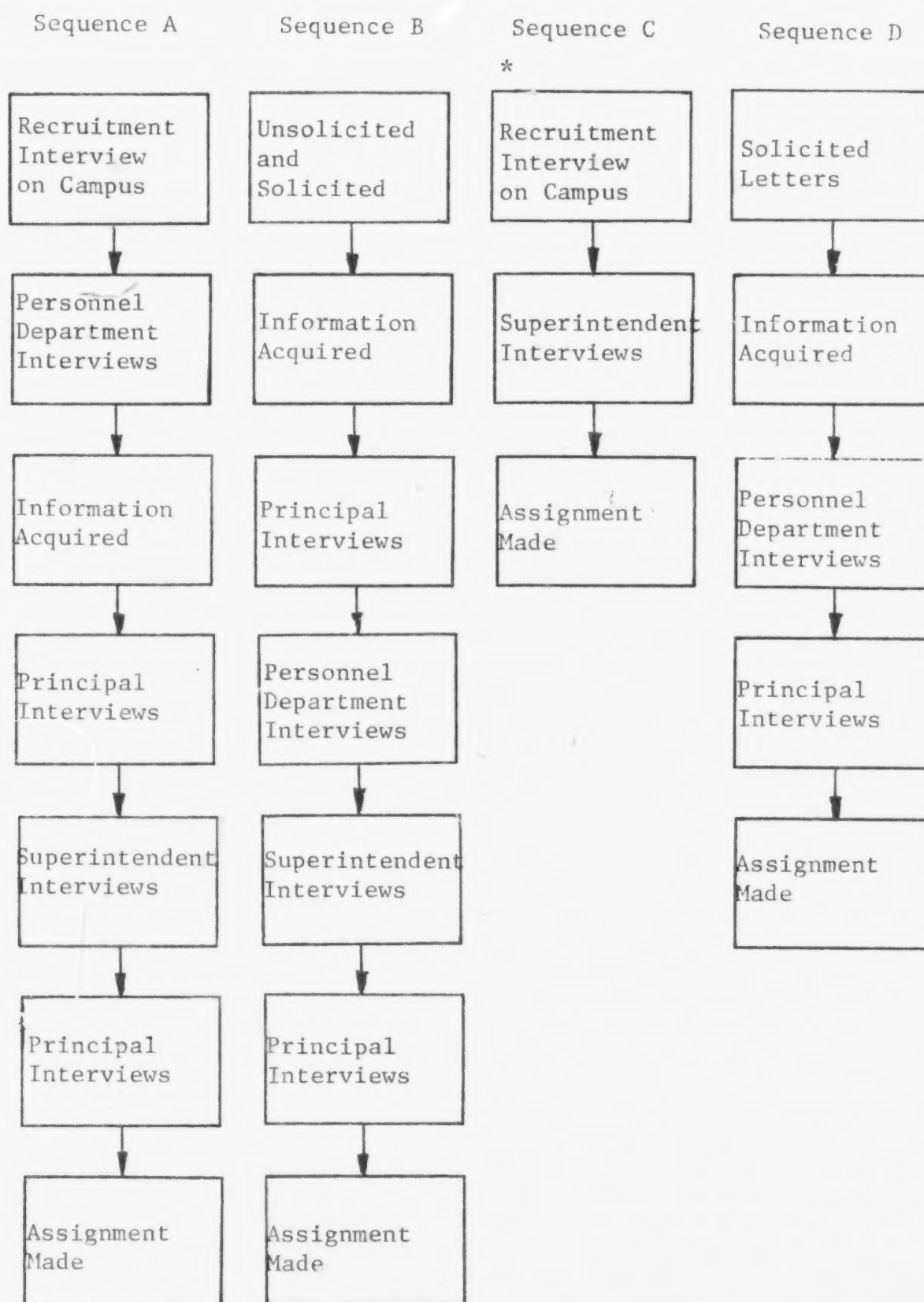


Figure 3.4. Typical Sequences of Interviews in the Selection Process.

*usually only in small school districts

Use of
Single
Criteria

⇒ NOTE

Many school districts and industries still erroneously use the interview as a way to uncover the single criterion which they believe predicts teacher or employee effectiveness. (practice: schools, industry)

For example, some districts expressed the desire for teachers who cared more about children than subject matter, or who were enthusiastic (believing that enthusiasm overcomes most difficulties) or who were of a specific race. There seemed to be, in many instances, little recognition of the need for multiple predictors, as well as predictors specific to each situation and group of students.

Group
Interviews

Industries tend to make more use of group interviews (e.g., where more than one interviewee is observed as a discussion is held on a given topic) than do school districts, but neither schools nor industries use them extensively. The "serial" interviews shown on Figure 3.4 are quite commonly used in the schools.

As an example of a group interview, the Leaderless Group Discussion technique is used to select persons exhibiting leadership ability. Six to eight examinees are asked to discuss an assigned topic for a specific length of time. Raters, who do not take part in the discussion, observe their performance.

Bellows and Estep (1956); Bass (1954); and Willing (1962) cite several advantages of the group interview:

- All applicants are seen simultaneously by all of the people responsible for the selection decision.
- Multiple observations of the same behavior tend to increase reliability.
- Less time is used by each observer.
- People who find interviewing difficult because of poor face-to-face human relations skills may be able to observe and rate in this manner.

Structured
Versus
Unstructured
Interviews

Some investigators believe that nondirective or unstructured interviews result in better evidence than more direct questioning (Richardson, et al., 1965; Chruden and Sherman, 1961). When the applicant is allowed to talk about whatever seems important to him, it is believed he will provide the essential information, even though each applicant provides different information (Moyer, 1948).

Other investigators state that only through the structured interview, which facilitates collection of comparable information among applicants, can reliable and objective decisions be made (Ulrich and Trumbo, 1965; England and Patterson, 1960; Crissy, 1952; Maccobby and Maccobby, 1954). In practice, most interviewers use varying degrees of structure during different parts of an interview.

Need for
Specific
Objectives

The importance of specific objectives in the interview is frequently stressed.

⇒ CONCLUSION

"When the objective is vague and ill-defined, and no particular form has been given to the interview...the reliability can be shown to be very poor and it follows that the validity, too, would be very poor." (research: Younge, 1956:26)

Stress
Interviews

Another variety of interview discussed in the literature on interviewing is the stress interview. When the job for which the applicant is being interviewed involves stress of some kind, the interviewer may attempt to simulate the tensions of the position in order to observe the applicant's emotional stability and frustration tolerance under strain. While current government practices and literature on school interviewing indicate that stress interviews are being used, research does not yet prove their success--beyond the satisfaction expressed by people who have tried it (Bellows and Estep, 1957; School Management, 1964).

Early
Commitment

⇒ CAUTION

Some interviewers believe that in only a few minutes, five to ten at the most, an opinion can be formed to screen out obviously unqualified candidates. (research: Fear, 1958) However, research has not substantiated the reliability of such an opinion for a wide variety of interviewers involved in selecting teachers.

In fact, the early part of the interview is when many interviewers commit themselves to a decision regarding the applicant. This commitment may be made either consciously or unconsciously. Bolster and Springbett (1961) found this same early commitment, although it was followed by tendencies to shift decisions according to these principles:

- The amount of interview commitment at the time of a decision shift and the weight of the challenging information both affect the amount of change made in decisions.
- It is easier to shift a rating in the direction of a rejection decision than in the direction of acceptance.
- People have different amounts of sensitivity to negative evidence.
- An item of information received toward the end of the interview carries more weight than it would if received earlier in the interview.

⇒ CONCLUSION

Therefore, when information is received, as well as its content, affects how it is perceived. (research: Bolster and Springbett, 1961, and others)

Use of
Written
Information

If written information about an applicant is read prior to the interview, it is done to help structure the interview and to probe areas that should provide maximum information. Reading the information during the interview is justified on the basis of inability to acquire the

information ahead of time and a desire to see it prior to leaving the individual. When interviews are conducted prior to reading written information, the rationale is usually that it prevents the interviewer from establishing biases.

⇒ NOTE

No generalizations can be made regarding the goodness of interviews. This is due to the fact that the interviewer is a part of the measuring instrument as he judges each candidate; hence there is no common measuring instrument to be studied, nor can generalizations be made regarding the precision of the instrument. (viewpoint: Springbett, 1958)

Functions
of Inter-
viewer

To further complicate matters, the interviewer performs three separate information processes: gathering, processing, and evaluating information. These processes are, to some extent, independent. Some insist (Springbett, 1958) that the same person need not do them all, and that they do not necessarily have to be done during the interview. The interview itself may serve only to gather information from which another person makes the decisions involving synthesis and evaluation.

In addition to gathering, processing, and evaluating information, an interviewer may be called upon to predict what the applicant will do in the future. The two tasks of observation and prediction may have little relation to each other; some interviewers may be able to do one effectively and not the other (Giedt, 1955).

Sources of
Error

Additional sources of interviewer errors are given in the literature.* Many of them result from attending to cues that are of little consequence.

*See the discussion on "Factors Influencing the Interpretation of Data" on pps. 120-5 for a more general discussion of errors in the selection process.

⇒ CAUTION

Administrators should be aware of the fact that relatively minor items may influence the interviewer unduly. (research: Mandell, 1961b)

Such items as the chance of a superficial resemblance of the applicant to someone the interviewer has known in the past, the interviewer's reaction to nervousness on the part of the applicant, and the interviewer's fear of weakness in the applicant are sources of error related to the interviewer's attitude and expectations of the respondent (Mandell, 1961b).

Often interviewer decisions are most nearly predictable from the interviewer's action than from the actions of the applicant (Ulrich and Trumbo, 1965). This is the case when an interviewer projects characteristics of his own onto the applicant. For example, the interviewer may see the applicant as an unusually critical person when, in fact, it is his own attitude that is overly critical. In addition Sydiaha (1962) found that the tendency to empathize with some interviewees interfered with the objectivity of interview decisions.

Six common errors in the use of questions in the interview are identified by Magee (1962):

- stating questions so they can be answered by "yes" or "no," which elicits so little information from the applicant that hidden strengths and weaknesses are not revealed
- unimaginative questions for which the astute applicant already has ready-made answers
- leading questions which suggest proper answers
- questions and comments which are non-neutral and reveal the interviewer's attitude
- questions not related to the task at hand
- questions that are already answered on the application form or résumé.

⇒ NOTE

The personal interview can help discriminate between applicants as well as increase confidence in the selection decision (research: Bolton, 1968)

Increased
Discrimi-
nation and
Confidence

Recent research (Bolton, 1968) has indicated that the interviewer has a greater feeling of certainly about his decisions when he has both the opportunity to see and to hear the applicant. Audio-interview information increases the interviewer's ability to discriminate between applicants. Thus the personal interview, since it combines visual and audio information, contributes to the selection process by increasing the success and confidence with which people select from among a group of applicants.

Summary,
Interviews

In summary, the validity of the interview for decision making is frequently challenged in the literature. There is no evidence that all interviewers can function equally well with all types of respondents, and there is a need to determine the value of the interview separate and apart from the personality of the interviewer.

⇒ SUGGESTION

Additional research should be done to analyze the contributions of the interview, per se, without the use of ancillary data such as application forms, college records, and grade point averages. (viewpoint: research staff)

Conclusion
and Recom-
mendations

The following conclusions and recommendations should be kept in mind:

- The interview may be valid or not according to the skill of the interviewer, the situation, and the nature of the interviewees. The assumption that the interviewer, regardless of who he is or whom he is interviewing, is consistently able to gather, weight, and evaluate information accurately has not been proved.
- Interviewers involved in the selection of teachers should receive training in the

interview process, since training has been demonstrated effective in preventing common interviewer errors and in improving the ability to discriminate among applicants.

- More research followed by rapid and thorough dissemination of its findings needs to take place. Exactly what part does the interview play in the selection decision? What are the precise effects of different training programs for interviewers? How many interviews are necessary for the best decision by both the interviewee and the school district? How should information gathered during interviews be recorded? Who makes a good interviewer? Research on these questions, and on many more like them needs to be done.
- Which interviewers are the most successful? One large gap in the practices of many school districts and industries is the failure to follow the future careers of applicants, both those selected and those rejected, to discover the quality of the decisions that were made. People who tend to make good interview decisions should be recognized, and the fact that not everyone does should be a matter of concern and action for personnel directors. Continuous, local research of this nature should be a part of every selection program.

Paper and Pencil Tests

Purposes of Tests

Psychological and educational tests are used in the selection of personnel because it is generally accepted that they supply information which gives additional and valuable assistance in making decisions about people. Many businesses use psychological tests in their data collection process. Business and industry are aware of the limitations and effect which testing programs have on their organizations, but the merit of the extensive use of tests for selection purposes in businesses cannot be denied because of their many successes (Ward, 1960). However, the contribution these tests make to the selection process for school districts is unclear.

⇒ NOTE

Although psychological tests can supply predictive information not otherwise available from other data collection instruments, the information from tests is not universally predictive. Therefore, tests must be locally validated. (research: synthesis)

Research in industrial psychology can indicate which tests predict specific kinds of success; where this is done, the use of tests can simplify the selection of employees. However, school administrators may reject paper and pencil tests on the ground that human behavior is too complex to be handled by other than implicit, intuitive means (Stone and Kendall, 1956). Although this reluctance to use tests may be attributed to a number of factors (e.g., cost, lack of trained personnel, fear of dehumanization), and although tests may not be absolute and perfect predictors, it is clear that they do have the capacity to improve batting averages in selection (French, J., 1956) and thus should be examined for their utility in specific school situations.

For example, if a school district requires that teachers have a specific level of intelligence and/or a special aptitude, testing may be the only way to get objective and quantifiable information. The reason local validation is necessary is because some of the standardized tests have not been effective as predictors in certain conditions. For example, a study with student teachers indicated that only selected scales of the Minnesota Multiphasic Personality Inventory appeared to be effective as screening devices at the preservice level, while tests of academic achievement and intelligence (the School and College Ability Test, the Purdue Intelligence Test, and Sequence Tests of Educational Progress) did not prove to be predictive as selection devices (Mascho, 1966).

⇒ NOTE

What test users in an employment office are trying to predict with tests is the potential job success of the applicant, not his intelligence, mechanical ability or his personality. (viewpoint: Albright, Glennon and Smith, 1963:18)

If a decision maker believes that there is a need to consistently apply standardized procedures to all applicants

in order to assure that the best selection will be made, then he cannot disregard the value of tests. Tests, in themselves, are neither good nor bad and should be selected in terms of the appropriateness for a given situation.

⇒ CAUTION

Paper and pencil tests must have a proven relationship to job success, otherwise hiring high scorers only amounts to hiring those who are good test performers. (research: synthesis--Cronbach and Gleser, 1965; Guion, 1965; Albright, Glennon and Smith, 1963)

What Tests Measure

One useful way to look at what tests measure can be seen in Figure 3.5. This "model" of the measurement of human characteristics is somewhat generalized but useful in seeing the continuum of characteristics to be measured and the kinds of precision one can expect from psychological, physical, and educational tests.

Appreciation of the worth of competently used tests and understanding the need for local validity are not the only factors which influence the decision to use tests for selection and placement.

⇒ NOTE

Factors which must be considered in the decision to use psychological tests for selection purposes include:

- *ultimate worth in predicting applicant success*
- *cost*
- *impact on potential applicants*
- *current employee morale*

(viewpoint: research staff)

A testing program is not inexpensive. Development of materials, training of personnel and informing the staff are costly. Employee-employer relationships and public relations can be adversely affected if the purpose and procedures of the testing program are not clear to staff

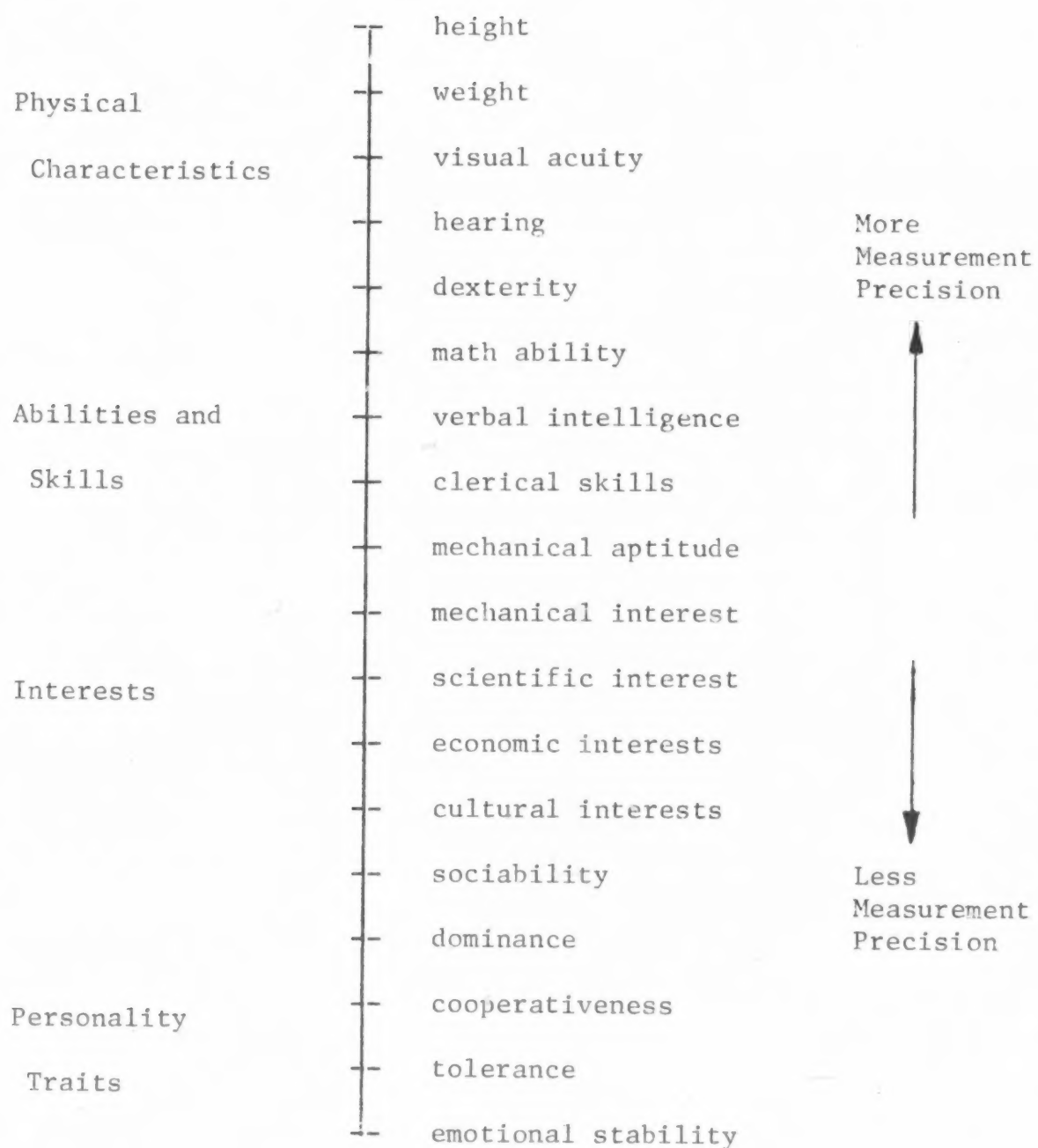


Figure 3.5. Measurement of Human Characteristics.
(Albright, Glennon, Smith, 1963: p. 41)

and community. The question of their value, validity notwithstanding, must be dealt with, i.e., one must always answer the question of whether the improved prediction of success or failure is worth the cost.

Other Uses
of Tests

Tests for prediction purposes, of course, are not limited to their use in selection and placement alone. They may be used in supervision to discover the worth of in-service experiences, i.e., to determine what in-service training to give to whom; they also may be used to establish criteria for success and resulting position description. In the latter case, they may be used to verify the standards of success that a school district desires. (For example, if a school district desires intelligent teachers, tests could discover if intelligence really does relate to good teaching.) There is a definite need for school districts to consider these uses of tests in local research efforts.

Resources
on Tests

School districts considering a testing program for selection purposes would find two resources quite valuable:

Albright, Lewis E., J. R. Glennon, and Wallace J. Smith. The Use of Psychological Tests in Industry. Howard Allen, Inc., 1963.

Cronbach, Lee J., and Goldine C. Gleser. Psychological Tests and Personnel Decisions. University of Illinois Press, Urbana, 1965. Second Edition.

Assessment Centers

What are
They?

A relatively recent development in gathering selection information is the use of actual performance assessment. In business and industry, this has taken a variety of forms, from centralized assessment centers to decentralized on-the-job performance assessment. Centralized assessment centers are usually conference areas with one-way observation windows where the candidates do the required exercises, whereas decentralized on-the-job performance assessment usually occurs in selected regional or branch offices. Because of the expense of operation, assessment centers are primarily used for selection of managers from employees. However, they can be used for initial selection into an organization, and they offer promise for use in teacher training institutions and large school districts.

⇒ NOTE

*The assessment center approach, combining psychological tests, simulation exercises, and observation of group behavior is a relatively recent development in the appraisal of a candidate's potential for success and is gaining acceptance.
(practice: industry)*

At the assessment center, the candidates may participate in:

- a comprehensive interview
- several paper and pencil tests of mental ability and knowledge
- job simulation via an "in-basket" exercise
- leaderless group discussions

Each candidate's performance is analyzed by trained personnel and summarized in a detailed written report which gives an estimate of his potential for specific positions. Some companies have used a decentralized approach where the actual employment station becomes the center of assessment. Results of studies consistently show that assessment center evaluations are good predictors of success (Campbell and Bray, 1967).

Although school districts have not yet used the kind of performance appraisal embodied in the assessment center approach, these methods are being discussed. Likewise, other approaches to performance assessment via teacher internship, micro teaching, and recently combined efforts of training institutions with local districts and professional associations are occurring and show promise of benefit. The emphasis of these activities has been on teacher training rather than on selection, but they do contain components which relate strongly to the selection process.

Results and
Benefits

Several studies by Midwestern and New England companies (Campbell and Bray, 1967) identified assessment ratings and criterion measures which contributed to the selection process; 91% of the men selected under the assessment center approach were promoted. Other studies have indicated that the difference the assessment center makes in

selection policy is related to its acceptance by the management of the organization. Supervisors must be encouraged to attend, and even participate as staff, in the assessment centers. This opportunity to evaluate the diagnostic information the center makes available permits greater involvement in the selection process and develops evaluation skills in those who participate as staff. A follow-up on persons assessed in centers can determine the value of the process, and can determine whether modifying the process and/or training those who function within it is necessary.

Processing Candidate Information

Importance

Data collection provides a basis for selecting or rejecting candidates. Therefore, the information that is collected must be processed so that it actually does serve that purpose. Several options are available for the processing of information; all are related to the degree of sophistication and precision of the total process.

⇒ CONCLUSION

Where data collection becomes more precise and objective, and when the information is used in quantitative and composite form for prediction, the processing of that information becomes more complex. (viewpoint: research staff)

Common Practices

The most common technique for processing information on a candidate involves the creation of a file folder, containing his documents and miscellaneous selection information. The file may be reviewed by the personnel officer and/or principal, and may be assigned a reject, hold, or hire rating.

When districts can determine which information best predicts success by performing local validation studies, information processing becomes more complex. Data must somehow be condensed and coded, so that candidates can be ranked when the point of final selection approaches; the processing of the information and the resulting format play a significant role in that final decision.

Research indicates that the format in which information is presented enhances selection decisions, particularly when data is condensed on a single summary document rather than left as a mass of data in a file folder (Bolton, 1969). When school districts move toward more sophisticated and precise selection procedures, using large amounts of data to validate the selection process as well as to make actual selection decisions, the need for computer service to handle this information becomes more apparent.

Computers have considerable potential use in the recording, processing, and retrieval of candidate data in the selection process. However, because of cost, cooperative intradistrict planning and purchase of computer time may be the only way smaller districts can have computer service available.

Approaches for Smaller Districts

It may also be that computer service is not necessary for the smaller district and their selection efforts, if sufficient attention is paid to efficient processing of paperwork. For example, visible record files which show at a glance the number of applicants for specific jobs, the comparison of candidates, and what action needs to be taken to make the selection process more efficient (Bolton, 1962). The information processing system can also be used to develop a graphic record which shows when most applicants inquire, send in the application, and are interviewed (Bolton, 1963). This can guide the timing in making actual selections.

Sequence of Data Collection

Rationale for Sequence

Determining the sequential use of data collection instruments is based on strategy of decision making and the contribution each "instrument" makes to the selection process.

⇒ SUGGESTION

Those instruments which provide a rough screening of applicants should be used with the larger applicant pool; those that differentiate more precisely between final candidates can be used during the last stages of selection. (position: research staff)

It is possible that school districts may interview an applicant before his application is reviewed or may delay paper and pencil tests until all other data are collected. However, the basis for establishing these sequences would be unclear unless information on the local validity of these procedures is available.

For example, a school system may find that a locally tested and proven application form does the best rough screening and that the best predictor for differentiation between highly qualified candidates is the performance assessment approach. If this is the case, then a data collection sequence may be established which reflects this information.

Prerequisite
to Sequence

Of course, if combinations of instruments do both rough and precise differentiation and can be administered rather easily, the sequence decision may be less one of deciding on sequential use of individual instruments than one of acquiring the proper combinations of data collection devices to use. When local districts develop validated (proven) predictors and seek that information on new candidates, the establishment of a functional sequence can become clearer to them.

Bases for
Sequence

To summarize, the decisions about sequence of data collection are based upon these factors:

- the validity of each instrument (application form, interviews, etc.) used to collect information to predict success
- the degree (gross to precise) of candidate differentiation each instrument provides
- the specific information each instrument contributes
- the particular selection purposes instruments serve, (e.g., an instrument which supplies data used for early elimination of applicants may be used in a different position in the sequence than information about strengths and weaknesses to be considered in later supervision).

Candidates may, of course, exhibit differences which may be ascertained better by a flexible sequence. The sequence of data collection will have direct bearing upon the

selection decision's goodness or validity. More essential, however, is the notion that sequence provides the framework for management of the information used to make these decisions.

Making Decisions

Factors Influencing the Interpretation of Data

In the research literature concerning the selection of teachers, few clues are given which suggest how data which describes teachers is to be interpreted. However, information is available concerning what influences the interpretation of data used in making the selection decision. Discussions regarding these influences can be categorized as follows:

- general influences and considerations
- factors which enhance one's ability to interpret data correctly
- factors which diminish one's ability to interpret data correctly.

General Influences

An administrator needs to be aware of those factors or conditions which will have an impact on his ability to interpret data used in the selection decision or in his choice of desired teacher behaviors. Such an awareness is the beginning point for an examination of those factors and conditions (Guetzkow and Forehand, 1961). For example, Bolton's study (1968) demonstrated that in the teacher selection process, the format of information provided to a decision maker affects his ability to discriminate, rate consistently, feel certain about his decision, and efficiently use time required to make the selection decision.

⇒ SUGGESTION

The selection decision is improved by: (a) using a single page summary document, rather than multiple documents descriptive of an applicant; (b) providing instructions to the decision maker regarding how to process information; and (c) using interview information in audiovisual form rather than audio form only or providing no interview information. (research: Bolton, 1968)

School personnel should resist the tendency to confront selection decision makers with too much information and reduce data to that which is needed and usable.

⇒ SUGGESTION

Substantial effort should be made to determine what information is needed locally in the selection process; a substantial reduction may be made in the amount of information with which decision makers are confronted. (research: Hickey, 1970)

The training and experience of the person making selection decisions appears to influence the way he interprets information. For example, Halpern (1955) concludes that individuals can recognize most readily those behaviors and characteristics in others that are similar or equivalent to the characteristics and behaviors which they themselves possess. Therefore, a potent influence on the interpretation of data is the background and training of the person doing the interpretation.

Some Factors
Enhancing
Interpreta-
tions

Some of the more interesting questions regarding interpretation of data relate to a supposed difference between men and women in their ability to interpret data or make judgments according to data being considered. In this regard, there appears to be no sex difference in the ability to interpret data; however, some reports show that women have a slightly superior ability to judge (Taft, 1955). Explanations for this slight difference between sexes are incomplete, and one seems safe to conclude that any differences in interpretation and judgment which might exist are inconsequential.

While we may assume that a difference in sex will not enhance the ability to interpret data, Taft (1955) has shown that individuals who possess the ability to remain socially detached make more accurate judgments than those who are not so detached.

Many administrators are beginning to realize that their selection decisions are altered by a host of influences on their ability to interpret data correctly; however, few are recognizing steps which they can take to enhance their chances of making more valid selection decisions. As an example of a step which might be taken, one could insure that evaluations are based on the judgments of multiple raters rather than single raters since research has shown that when multiple raters are used in making evaluations, the information generally will be a better indication of teaching behavior than if single-rater evaluations have been used.

⇒ CONCLUSION

*Multiple raters enhance predictions of teaching success over single raters.
(research: Lawler, 1967)*

Advice regarding factors which will improve the selection decision abound in the literature even though this advice often does not seem to be based on specific research findings. However, two points appear useful. The first point suggests that the selection decision is improved with an increase in the number of available candidates.

⇒ CONCLUSION

*The wider the degree of choice in the selection decision, the better the chance that the selection decision will be valid.
(viewpoint: Lopez, 1965)*

The second point is concerned with the importance of professional training and experience as the basis for making sound selection decisions.

➡ NOTE

Professional knowledge has proved to be one of the more successful predictors of teaching performance. (research: Flanders, 1969)

In addition to the above statements affecting interpretation of data, it appears that some people "interpret" data primarily by looking for factors that eliminate applicants. However, as Stone and Kendall (1956) point out, an identification of the absence of disqualifying factors in an applicant is not equivalent to predicting his success. It seems that one would be wise to consider the often-made statement: It is extremely easy--and costly--to let one's desire for new information influence a decision about the appropriateness of that information.

Factors
Causing
Errors

Considerable attention is given in the literature to categorization of influences which may cause errors in the interpretation of data used in the selection decision. These errors may be grouped under the following two general headings: (a) errors committed by persons in the selection process, and (b) errors committed by organizations or institutions in the selection process.

Errors by
Persons

Persons involved in the selection process may be susceptible to one or more of the following errors; consequently, a conscious effort should be made to minimize their occurrence.

- leniency --bias which allows one to reduce the importance of negative characteristics exhibited by a candidate
- halo effect --bias in favor of an individual candidate resulting from an overemphasis placed on specific desired characteristics
- central tendency --the tendency of individuals to average judgments
- logical --ambiguous interpretation of similar characteristics, e.g., integrity and truthfulness

- contrast --the tendency to rate a candidate low in an area in which the rater considers himself strong
- overgeneralization --assuming that the same kind of behavior will be exhibited in all types of people at all times
- faulty weighting --tendency of professionals to inappropriately weight some factors used in making predictions
- confounding --simultaneous consideration of more than one characteristic
- premature closure --distortion of subsequent information because of early conclusions

Errors by Organizations Organizations involved functionally in the selection process should develop procedures which will help minimize the following common organizational errors:

- careless treatment of candidates
- hyperdependence on expert opinions
- misjudging job requirements
- making stop-gap appointments
- stereotyping prospective candidates
- disregarding the "organizational" personality
- overlooking personal compatibility with personnel within the organization

Suggested
Actions

There is little research available which indicates how data descriptive of teachers should be interpreted. However, the analysis of factors which enhance interpretation and factors which cause errors suggest specific actions which offer promise for reducing problems of data interpretation. These actions are:

- limit the number of behaviors that are to be assessed in the selection process

- develop specific definitions of desired characteristics
- specify behaviors desired and situations wherein those behaviors are appropriate (for example, consider the requirements of an urban classroom filled with alienated students as opposed to a suburban classroom filled mainly with students motivated for school activities)
- focus on specifics rather than general impressions; where possible avoid inferences
- assess observations immediately, rather than delay assessment
- assess behaviors independently (for example, teacher behaviors, pupil responses, and pupil-teacher interactions)
- suppress rating and observer biases based on an awareness of those biases
- replicate observations and assessments.

Types of Decisions

When individuals involved in the teacher selection decision confuse individual decisions with institutional ones, difficulties arise. Cronbach and Gleser (1965) suggest that selection personnel must be aware that they are making institutional, not individual, decisions. Institutional decisions use a common value system for a large number of comparable decisions in an attempt to maximize organizational gains "in the long run."

However, an individual decision may be confronted only once; consequently, a person's value system at that time is used to make the decision. Since the individual may never have the opportunity to maximize gains over a large number of comparable decisions, his decisions are more subject to changes in his value system.

Cronbach and Gleser (1965) identify three vital elements essential to institutional decision making:

- a clear statement of desired outcomes provided by spokesmen for society

- a clear statement of empirical predictor-treatment-outcome relations provided by research
- a rational combination of these two into an optimal decision rule.

Regardless of the institutional or individual classification of decisions made in the selection process, it seems imperative in the interest of sound personnel practices that selection decisions be made according to organizational requirements and not the personal preferences of those involved in the process.

Strategies

Decision Strategies

When making the final selection decision, a person tends to use one of two different strategies.

- Subjective. At one extreme are those authorities who recommend what is essentially an intuitive judgment, called "clinical" by Meehl (1954:3).
- Objective. Others insist that only an objective process using the quantification of verifiable information can render valid decisions. The objective method is sometimes referred to as "actuarial" or "statistical" decision making.

In general, opinions still differ about which of these two strategies produces the sounder judgment. Authorities do agree that an essential task of the decision maker is to predict the future performance of the applicant. How this prediction can most reliably be made is the issue. Scott (1964:93), discussing managerial selection decisions, asks

...whether or not a selection decision maker utilizing clinical methods will be able to predict managerial performance more accurately than one who approaches the task with tests and other psychometric data that have been correlated with measures of managerial performance.

Clinical Decisions

"Clinical" decision making refers to the use of processes resembling those of the psychologist (who regards each person as a unique individual with a set of traits, abilities, motives, and values so entirely different from all others that he can not be adequately described by a

set of standardized tests and procedures) (Scott, 1964). The use of intuition that cannot be supported by statistical evidence is considered necessary because the uniqueness of each individual does not allow for previous development of measures suited to his particular pattern or structure of behavior (Scott, 1964). The interviewer's understanding and empathy may play a larger role in this kind of decision than does objective evidence (Sydiaha, 1962).

What does determine the validity of subjective methods? Other than counting the number of "hits or misses" after the fact, there exists no means to measure success. Mandell (1964:27) states: "We cannot discuss the validity of subjective methods in general; their validity is as high or as low as the competence of the evaluator." Obviously, considerable training and experience are necessary before one is competent to make this kind of selection decision (Hammond, Hursch, and Todd, 1964).

Actuarial Decisions

On the other hand, objective or actuarial methods are supported by those who believe that, complicated though behavior patterns are, behavioral dimensions do exist in common in individuals and provide a sounder and more explicit basis for selection than intuitive decisions do (McMurray, 1947; Scott, 1964). Particularly where the job environment is relatively standardized and there are large numbers of repetitive decisions to be made, attempts to develop objective instruments and methods should be considered (Mahoney and England, 1965).

⇒ CONCLUSION

Most current advocates of decision-making strategies see the necessity for a combination of clinical and actuarial methods. (position: Meehl, 1954; Scott, 1964; Bellows and Estep, 1957; OSS, 1948)

A Matter of Degree

Several authors (Bellows and Estep, 1957; Sydiaha, 1962) who recognize the advantages and disadvantages of both methods recommend a combination of the two to arrive at the best selection decision. The choice of strategy for processing decisions then becomes a matter of degree and less a matter of either clinical or actuarial selection decisions. As much as possible, item analysis and validation of information should be used, with reliance on properly trained clinical "intuition" when and where it is necessary.

Other
Strategy
Issues

In considering strategies for making selection decisions, issues and concerns other than the actuarial-clinical controversy are significant. Of particular importance are such items as:

- the use of eliminator or selector variables
- the use of a probationary period as an extension of the selection process
- which variables compensate for one another
- who is to be involved in various stages of the process
- the sequence of activities
- placement procedures
- the method and timing for making offers of employment.

⇒ NOTE

As one examines the variables being used as predictors, he should choose those to be used to eliminate certain applicants; those which will be used as selectors; and those to be used both as eliminators and selectors.

Eliminators
Versus
Selectors

For example, one might decide that prior experience with youth activities would make an applicant more suitable, but that lack of such experience would not eliminate an applicant; that habitual absenteeism in prior work experience would be sufficient to eliminate an applicant; and that scholarship might, depending on its quality, cause an applicant to be selected or eliminated.

- The eliminators function as hurdles which must be passed.
- The selectors are those variables which indicate what desirable behaviors will be exhibited.

Where eliminators are used, one should be certain that the predicted behaviors (for example, "morality compatible with the district," or "lack of absenteeism") are actually necessary to the teacher's satisfactory performance.

⇒ NOTE

In addition, one should be relatively certain that the behaviors are necessary for acceptable initial work and are not likely to be attained after the position is taken. This latter point is especially crucial when the number selected per the number who apply is high, because otherwise acceptable applicants who could acquire needed skills on the job may be eliminated. (viewpoint: research staff)

For example, a certain position may require a given level of organized activity in the classroom. If evidence from practice teaching is used, a given applicant's credentials may disqualify him by indicating that activities during practice teaching were not very well organized. An error might be made in immediately eliminating such an applicant. Further inquiry may indicate that this applicant's attitude toward organized activity is excellent, but that his skills in planning, allocating and sequencing are weak. If he has had very little assistance with these skills, he may respond favorably to a helpful principal and colleagues who serve as good models. Note that the behavior required was not changed; but that a decision was made that the behavior was not necessary prior to selection for the position.

⇒ NOTE

When the selection period is considered to extend into the period of employment in the form of a probationary period, decision strategies are not likely to focus on variables which eliminate applicants; rather, the focus is more likely to be on variables which function as selectors. (practice: schools, industry)

Use of
Probationary
Period

Where the possibility for release of a teacher is low, as is the case where a probationary period does not exist, the decision makers are less likely to risk hiring individuals who have some evidence of negative information. Therefore, the decision maker tends to use a strategy which emphasizes information likely to eliminate an applicant than to attend primarily to selector variables.

Compensation

Prior to making selection decisions, one should ascertain whether predictor variables interact so as to compensate for one another. For example, does intelligence compensate for hard work or diligence, or vice versa; would experience substitute for education? Where compensation occurs, individuals assessed on a number of dimensions may differ quantitatively on several dimensions and still have an overall prediction of similar value to the organization.

Personnel
Involved;
Sequence of
Activities

The type of personnel involved in the decision process and the sequence of activities varies considerably from district to district and among industrial organizations.



NOTE

The sequence of activities for information collection and decision making is affected by which phases of the selection processes are centralized. (practice: schools)

The two sequences which follow are examples of divergent practices representing different emphases on central control of information collection and assignment of authority for making choices.

Sequence #1: Strong Principal Involvement

- a. central office conducts recruitment
- b. central office conducts screening interview
- c. central office processes written records
- d. principals examine written records, information regarding initial interview
- e. principal is responsible for contacting applicants in whom he is interested
- f. principal interviews
- g. central office interviews if the principal's interview is favorable
- h. other principals who have vacancies of interest to the applicant interview the applicant

- i. principal(s) make recommendation that offer(s) be made
- j. central office makes offer(s)
- k. individual decides which offer, if any, he will accept

Sequence #2: Strong Centralization

- a. central office conducts recruitment
- b. central office processes written records
- c. central office conducts interview
- d. central office summarizes information from written records and interview
- e. written information and summary are routed to all principals who have potential vacancies
- f. principals make recommendations regarding selection
- g. central office makes final decision

The functions of central office and building personnel are different. Central office personnel are responsible for coordinating the total system; consequently, when uniformity is desired, they must initiate procedures that will produce it. However, building personnel such as principals are in a much better position to explain the individual problems and diversity among their subunits and to relate to the personal concerns of the applicants.

⇒ NOTE

*When a person is hired for a specific position, no separate strategy for placement is necessary; but when teachers are hired into a "pool," special placement strategies are necessary.
(practice: schools)*

Placement
Procedures

At least four strategies are currently used to make assignments from a pool of teachers.

- Central office makes the placement decision.
- Central office makes the placement decision on the approval of the principal.
- A committee makes the placement decision.
- The applicant has the opportunity to make a choice and be approved by a principal who has a vacancy.

⇒ CAUTION

All procedures regarding making job offers involve the risk of losing an applicant. Locally-conducted research is needed to determine which procedures are likely to be detrimental to the organization. (practice: schools, industry)

Job-Offer Strategies

The following points should be considered before a job offer is made:

- Are better applicants likely to apply within the time period when an offer should be made?
- Should multiple offers be made?
- Who will decide when to make an offer?

Procedures in use include: (a) making an offer at the time of the interview; (b) indicating to the applicant when the decision is likely to be made (and then establishing appropriate controls so the decision can be made within that time); (c) indicating the degree of interest that the district has in the applicant and then leaving the responsibility for checking back to the applicant; and (d) asking the applicant when he must make a decision and adhering to that date.

Cutting Scores

Scores which are derived from the various data collection instruments (the application, interview, etc.) can be used in several ways. They can be used as individual hurdles; that is, as each data collection device is used, a cutting

score is set and a decision made to accept or reject. More commonly, a total composite for each candidate, based on all data collected, is used to establish a single cutoff score.

A multiple cutoff method can be used as an indicator of success, where all scores are treated as continuous variables and a "profile" developed for each candidate. This method has several advantages. It does not assume that strength in one ability compensates for inadequacy in another important ability; and it retains the scores of separate tests in the record and permits more effective selection when dealing with marginal candidates because it is not an undifferentiated composite, but more or less a profile.

Assessment of the Selection Process

The Validation Process

The outcomes of selection decisions must be subject to evaluation if the selection process is to be improved. Thus, if the selection decision is to be self-correcting, an evaluation system must be established which will determine whether a given district's basis for selecting its teachers has been effective in selecting the kinds of teachers needed in a given situation.

⇒ NOTE

The ultimate validity of the selection process rests in how efficient it is in forecasting a teacher's success in meeting a given school district's needs. (viewpoint: Crissy, 1952; French, W., 1966; Gage, 1968; Thorndike, 1949)

Validation, in order to be useful, requires that objective investigations be conducted at the local level. The nature of the evidence gathered from these investigations is dependent upon the "type" of validity required. Many types of validity can be defined. Those commonly discussed in the literature are:

- predictive

--the extent to which a relationship exists between measures of desired behaviors and future behaviors which are exhibited

- concurrent --the degree to which test scores are associated with measures of desired teacher behaviors, assuming these measures and test scores are available concurrently
- content --the degree to which a test includes a representative sample of all the tasks that could have been included
- construct --a judgment that a test does in fact measure a specified attribute to the extent that it can be used in the prediction of behavior.

Regardless of the "type" of validity desired, it should be kept in mind that there is no such thing as general validity for any test since its usefulness as a selection instrument has to be proved for every job in every situation in which it is used. Further, even when accurate forecasts are made, decision makers must recognize that working conditions and people change, and consequently, the obtained validity is likely to be only temporary. This makes it necessary to periodically check the validity. (Lawler, 1967; Bellows and Estep, 1954)

⇒ CONCLUSION

The selection process is dependent upon evaluative feedback resulting from local investigations which are designed to validate the process; such validation should be checked periodically because of changing conditions. (research and viewpoint: Bellows and Estep, 1954; Hinrichs, 1960; Redefers, 1962; Nunnally, 1967; Lawler, 1967)

Measures of Effectiveness

The value of any measuring device can be enhanced by: (a) statements regarding the importance of any inferences that can be made, (b) operational definitions of procedures to be used in taking measurements, and (c) an indication of the relationship of scores to such measures

of effectiveness as validity and reliability. (Ebel, 1961)

When little or no relationship is found between a measure which is used to predict teacher behaviors and those behaviors which the measure is supposed to predict, it is difficult to determine whether this is due to the fact that the measures are poorly chosen or because the desired behaviors are unpredictable due to unreliability of their measurement (Thorndike, 1949). This is particularly significant in selection research since many measures of desired behaviors are based on judgments of people's behavior. This is critical since it has been found in many instances that there is a significant low consistency in the ability of people to judge others.

Obviously, measures of effectiveness used in the selection process which are low in both validity and reliability are not beneficial for selection purposes. However, this does not imply that measures which have high coefficients of validity and reliability will be usable, since for example, such measures may be very difficult to use.

⇒ NOTE

Important factors relating to the usability of measures include:

- *ease of administration*
- *ease of scoring*
- *ease of interpretation and application*
- *reasonable cost*
- *proper construction*

(viewpoint: Cronbach and Gleser, 1965)

Analysis of Sources of Potential Errors

Hyman (1954) contents that the ability to formally recognize errors marks an advanced stage of any science. If we accept this contention, then it becomes imperative that

an analytical scheme for catching errors be incorporated into the selection process. It is especially important that this analysis of error of prediction be present in all stages of the selection process, since only through such error analysis can control and effectiveness of the selection process be assured.

⇒ SUGGESTION

It is of vital importance in the selection of teachers to conduct a continual analysis of error in the following stages of the selection process:

- needs assessment
- criteria determination
 - recruitment
 - collection and processing of data
 - making predictions
 - developing strategies
 - final selection
 - placement

To accomplish this effectively, an efficient record keeping system is necessary. (viewpoint: research staff)

Summary

Need Determination	The first step in the selection process is the determination of needs for teachers, both in quantity and kind. Needs should be determined in relation to the overall goals of the organization, the resources available to the district, the previous staff accomplishment, and previous misestimates.
Criteria Determination	No single criterion exists to predict the "good" teacher. Instead, criteria are changing, multiple, and situationally determined. A position analysis is recommended and should include information about the job requirements and the employee characteristics. Examination of position analyses should be repeated frequently. Teachers, vice-principals, department heads, central office personnel should all be involved in the development of criteria.
Recruitment	The purpose of recruitment is to provide an applicant pool that is adequate in both quantity and quality, with sufficiently diverse characteristics to fill all needs. The

cost of recruitment must be considered in relation to its results. Recruiting procedures should be more diversified than they generally are now and should be studied to determine their effectiveness.

Collection of Data

Caution should be used in the utilization of letters, inquiries, and résumés for selection decisions. Correlational studies can be made locally to determine which information on application forms best predicts future success as measured in the district. Letters of recommendation are often biased and inaccurate unless they contain precise information.

Interviews are used to collect information from the applicant as well as give information to him about the position. Interview practices vary widely in the amount of structure of the interview, the sequence of persons interviewing each applicant, and the amount of training given to interviewers. Industries tend to make more use of group interviews. Stress interviews are being used in some places. The goodness of the interview as a technique is determined by the skill of each interviewer, who is, in effect, a part of the "measuring instrument." Interviewers make errors in being influenced by relatively minor items, committing themselves too early in the process, empathizing with the applicant, projecting their own characteristics onto the interviewee, and asking inappropriate questions. The personal interview has the value in increasing the discrimination between applicants and the confidence felt about the selection decision.

The value of written psychological and educational tests has been established, but needs to be locally validated. Business and industry tend to use tests more than schools. Tests need to have proven relationships to job success, not just to the traits measured by the test. A good testing program increases the cost of selection decisions.

Assessment centers represent one of the more recent developments in selection processes that is gaining acceptance, to date largely in industry. Studies show that assessment centers are good predictors of success on the job.

Processing Candidate Information

The processing of the data collected becomes more complex as districts acquire more sophisticated information and use a composite form for the prediction of success. Data must be condensed and coded so candidates can be ranked for the final decision. A single summary document is recommended. Computers may be needed in larger districts to handle the increased paperwork of improved data collection procedures. Only those instruments designed for rough screening should be used with the larger applicant pool.

Strategies
for Decisions

Opinions differ about the need for subjective versus objective selection decisions in the hiring of teachers. In reality, a combination of methods is usually necessary, and may even be desirable. In addition, it is important to decide which variables used as predictors of success will completely eliminate a candidate and which will be used as selectors. The use of probationary periods after employment allows more emphasis on selectors than eliminators.

Some variables, such as hard work, may compensate for the lack of other qualities and should be considered. If applicants are hired into an applicant pool instead of for a specific position, placement strategies must also be developed. The best time for making an offer of employment varies and also needs to be determined locally.

Interpre-
tation of
Data

The interpretation of data is improved by using a single page summary document and training decision makers about how to process information. Errors frequently made in the interpretation process can be categorized as: leniency, halo effect, central tendency, logical, contrast, over-generalization, faulty weights, confounding, and premature closure. Individuals making selection decisions need to realize they are making institutional decisions rather than individual ones.

Improvement of selection processes depends upon the evaluation of processes used in relation to the success of the teachers selected.

Chapter 4

THE EVALUATION OF TEACHERS

Introduction Organizations may have as their primary thrust a motive for productivity (or profit) or a motive for survival.

- Those organizations based on a profit motive have a high state of morale when productivity is high and when an informal atmosphere decreases distinctions of authority. Under such circumstances, individuals in the organization may welcome evaluation of their behavior and their output even though these evaluations are made by people in positions of authority.
- But where the primary thrust of the organization is survival, any aspect of the evaluation process may be suspect and its benefits questioned, regardless of who is involved.

Resistance by Teachers Some might use the above argument to conclude that emphasis on survival (or lack of a high profit motive) is the basis for teachers' resistance to evaluation; and such may be the case. However, there is some evidence (Rose, 1963) that teachers welcome evaluation if:

- the major focus is on improving rather than fault finding;
- the information produced is meaningful to the teacher;
- the principal takes the necessary time to collect information that is adequate and to discuss it with the teacher.

This research implies that there is a need to have agreement on purpose and procedures, and this can occur only when purposes and procedures are specific. Also communications must be honest as well as skillful, and disagreements must be handled in the open rather than avoided.

⇒ NOTE

Changes in teacher or supervisor might be precipitated as a result of evaluation, and both the evaluator and the teacher are vulnerable when changes are possible. (position: research staff)

Considerable resistance to discriminatory evaluation of teachers exists in spite of the advantage of such evaluation.

⇒ CONCLUSION

*Removal of resistance to evaluation depends on clear organizational goals, resources adequate for training evaluators and providing adequate time for them to perform the tasks required, and clarity of the relationship of the organizational goals and the task of the evaluator.
(practice: industry, schools)*

Resistance
by Other
Forces

Changes in goals and procedures of evaluation are resisted by various forces, and teachers' organizations are one of the strong forces opposed to discriminating evaluations or evaluations which expand beyond the single purpose of improvement of instruction.

Although the research by Rose provides some indication of the nature of the resistance by teachers, what is the basis for the resistance by persons doing the evaluation? Interviews with persons involved indicate a number of factors may be present. For example:

- A general lack of certainty regarding criteria, measurement process, procedures for analysis and interpretation of data.
- A resistance to placing oneself in position of manipulating or adversely affecting other people's lives.
- A fear of precipitating an unpleasant reaction on the part of the person being evaluated. This reaction is then said to prevent a relationship that is conducive to helping the individual improve.
- A lack of ability to cope with the weaknesses of the individual in terms of organizational needs and his ability to improve. This is sometimes linked with a failure to communicate to the individual the necessity of dealing with both the individual and the organization's problems.
- A failure to see the relationship of evaluation of others to the purposes of the person doing the evaluation.
- An inability to organize time in such a manner that adequate observations can be made.

Nature of
Evaluation

In addition to the question of resistance to evaluation, a number of other issues were encountered in discussions with members of organizations. For example, what is evaluation considered to be? If evaluation is a value judgment which occurs only following description, analysis, and interpretation, then it is discussed differently from evaluation viewed as a means of categorizing teachers for some obscure reason. How an evaluator defines evaluation is likely to determine whether he will be satisfying cognitive needs with knowledge or providing psychological support for emotional reactions.

- It appears that where evaluation is used for diagnostic purposes (i.e., where behavior is described and analyzed to help in determining the relationship between the process being used and the output of that process) the emphasis is justifiably on dealing cognitively with information.
- However, if the emphasis is primarily on placing individuals in classifications or categories, as is the case when some cumulative rating is used, then one should be prepared to deal with emotional reactions.

⇒ CONCLUSION

Evaluation is a value judgment made late in a dynamic process; unless adequate description, analysis, and interpretation precede it, errors and poor results will occur. (position: research staff)

Quality and
Quantity of
Communication

Some propose that a major purpose of evaluation is to force communication between the employee and the supervisor in order that the employee can always know where he stands with the organization. Others indicate that quality of communication is important also, and that purposes of communication should go well beyond simply "letting the employee know where he stands." Continuous interaction between teacher and principal (supervisor) assists them to analyze information. This does not negate the use of formal written feedback at stipulated periods. To be most effective, the communication must be two-way, requiring that each person listen to the other.

⇒ CONCLUSION

Effective evaluation of teachers is dependent both on an adequate quality and quantity of communication between teachers and principals. (practice: schools)

Models of
Evaluation

What should be the model on which evaluation is based? Should it be modeled after a marriage contract ("for better, for worse," i.e., a tenure system) or after a professional baseball contract (no results, no renewal)? Would evaluation decisions and processes be any different if the teacher and principal had to agree on a contract annually?

⇒ SUGGESTION

Models of evaluation function within the constraints of conditions of employment; more flexible models may develop if these constraints are modified. (practice: industry)

Process
and
Product

Some systems examine only the outcomes of teaching, ignoring what processes have been used. Other systems emphasize the classroom procedure, ignoring what has been learned by pupils. A self-correcting system should be designed which will identify errors and make changes in procedure before harmful effects occur.

⇒ NOTE

The purpose of examining outcomes of teaching is to determine whether goals have been met; the purpose of examining procedures is to determine whether a specified plan is being followed; the purpose of comparing outcomes and procedures is to determine whether the procedures should be modified. (practice: industry, schools)

Goal
Setting

An interview with the employee at the end of the first six months of employment may be used to set goals for the following year. This type of activity helps to coordinate the functions of selection and evaluation by integrating the personal plan for development with the evaluation procedure and also helps to express the organization's philosophy. Then the evaluator can help establish a training program for the individual, rather than simply correct faulty behavior. In this way the evaluation is used in a positive manner to plan and direct the individual's growth.

⇒ NOTE

Coordination of the personal and professional goals of a teacher leads to improved morale and productivity. (practice: schools)

Both the educational organization and individuals within it are being asked by the general public to be "accountable" for their actions and their products.

⇒ NOTE

Accountability consists of providing evidence regarding the degree of accomplishment of pre-specified goals and objectives. Too often, if a child does not learn, the child, society, or some factor other than the teacher is blamed. Teachers must develop a sense of responsibility for providing this evidence as well as accomplishing goals. (position: research staff)

Satisfaction with "accountability" probably is related to:

- the degree of specificity of the goals
- agreement on the goals
- the perceived adequacy of the evidence provided

A direct result of a desire for accountability is an increase in the number of states requiring annual evaluation of all (not just probationary) teachers.

Purposes of Evaluation

Although many people speak as though evaluation has a single purpose, it is apparent that there are multiple purposes and that sometimes these purposes are in conflict with each other. The difference between the schools' need to satisfy the public's demand for accountability and the desire of an individual teacher to improve the way he teaches a particular aspect of one subject suggests the wide extremes of purpose. The first consideration in establishing a program of evaluation, therefore, is a definition of purpose.

The evaluation of teachers may serve many purposes:

- to improve teaching
- to reward superior performance
- to supply information for modifying assignments
- to protect either the individual or the organization
- to validate the selection process

- to provide the basis of planning for individual growth and development
- to facilitate self-evaluation

Improvement of Instruction

There is general agreement among educators that the most important purpose for evaluating teaching is the improvement of instruction (Oregon Education, 1966; Heald and Moore, 1968; Wagoner and O'Hanlon, 1967); however, this improvement may take several forms: e.g., supervisors can provide feedback regarding behavior to teachers; physical environment and materials can be modified; self-evaluation can be used to improve diagnostic skills of teachers; or information can be gathered by other teachers and discussed with the teacher.

Since evaluation of instruction is required before systematic improvement can occur, it is necessary to establish a starting point from which to work. As Heald and Moore (1968:189) state, "The routes to a particular end vary according to the point of origin, and it should be one purpose of evaluation programs to establish these points." Through this knowledge of strengths and weaknesses a teacher can improve his work. Usually, when a teacher views evaluation as a means to improve his instruction, he accepts it as a part of the teaching assignment.

Rewarding Superior Performance

Another purpose for evaluation is to make it the basis for rewarding superior performance. However, this use of teacher evaluation tends to meet with considerable opposition from teachers, despite the fact that people outside of schools are asking why teachers should not be paid according to the excellence of their performance, e.g., how well pupils learn (Fishman, Oregon Education, 1966). These increasing pressures from school boards and taxpayers for rewarding superior performance are in direct conflict with the viewpoint of the majority of teachers.

Some authors, Anthony (1968), Simon and Boyer (1967) and Howsam (1963), suggest the teachers' major objection toward evaluation for the purpose of rewarding superior performance is due to subjective nature of the evaluations. They suggest the use of objectively obtained measurements of specific behavior which have been related by research to the accomplishment of specific pupil outcomes. Teachers also resent being classified into general categories of excellence, since excellence is specific to a situation as well as a person.

Modification of Assign- ment

Still another purpose of evaluation is to gather information for the modification of teachers' assignments, either by promotion, reduction or increase of load, or release (Heald and Moore, 1968). While these are necessary activities among all organizations, morale tends to suffer

when evaluation emphasizes elimination of the weak and ineffective; consequently, this negative emphasis needs to be avoided.

⇒ CONCLUSION

The general contention is that better staff morale and a better instructional program will result from adequate and creative supervision and orderly dismissal procedures for incompetent teachers. (viewpoint: Eastmond, 1959)

Protection of Individual and Organization

When the purposes of evaluation are considered from a legal standpoint, protection of individuals as well as the school organization becomes important. Responsibility for the operation of school programs is delegated by the state to the local district and from there to the teacher; with this responsibility comes the expectation that goals will be accomplished. Society does not expect schools to be operated without the same continuous evaluation that occurs in other organizations--although, from a legal standpoint, school boards have the right to establish the kind of school system they want as long as it remains within constitutional limits (Howsam, 1963; Heald and Moore, 1968). The boards' prerogatives include establishing any form of evaluation it desires. Because evaluation of teaching within a district serves as the district's protection when it is held accountable for the system it has established, evaluation is essential for legal reasons--if for no others.

⇒ NOTE

The emphasis on the legal aspects of teacher evaluation can be viewed negatively by teachers unless they realize that their own protection against unjust charges is also assured. (Smith and Tyler, 1942)

Validation of the Selection Process

Though little recognized and practiced, another reason for evaluating teachers is to validate and improve the selection process. Development of procedures that link information analyzed during the selection process with teaching performance should be a part of every district's planning. The criteria used to select teachers should be consistent with those used to evaluate teachers.

⇒ SUGGESTION

Since there is a need for all who are involved in teacher evaluation to understand the relationships of evaluation to selection processes, school districts should consider involving supervisors in both selection and evaluation as one means to help them understand how the two are related. (practice: schools)

Where principals are included in the selection process, as they are in many of the schools, it is expected that they are looking for the same qualities that they will later use for evaluation. As expressed by one personnel director, "They are much more careful who they select when they think the teacher may be placed in their own building." Also the principal may select according to his own particular needs or program, such as ungraded classrooms or "team" members with particular skills.

Promote
Individual
Growth

Closely related to the improvement of instruction is the teacher's own purpose for evaluation, namely, to promote self-improvement. Since most evaluation procedures assume that each teacher is interested in improving his teaching, evaluation can become the basis of planning with the teacher for individual growth and development (Howsam, 1963). To this end, new procedures begin with a goal-setting conference between the teacher and principal and means are then established whereby the teacher can acquire and diagnose information regarding his teaching. Although the criteria are individualized in this process and the diagnosis of behavior is done by the teacher, there is usually an attempt to mesh the individual goals with the institutional goals during the first conference.

Facilitate
Self-
Evaluation

In addition, one of the functions of external evaluation is to facilitate self-evaluation. The value of self-evaluation is to allow continuous diagnosis of teaching, a very necessary component of good teaching. Since current ratios of principals (or other supervisors) to teachers do not allow for adequately frequent classroom observations and conferences, no teacher can afford to rely entirely on external evaluation. However, self-evaluation may lead to adverse effects if results are not checked by external observation.

Adverse
Effects of
Evaluation

In addition to the potential benefits of evaluation, there are possible adverse effects as well.

- There is the natural strain in human relations that results when one person evaluates another (Gruenfeld, 1966).

- A conflict arises when both the function of accountability and assistance are expected from the same evaluation. It may be that a multiplicity of purposes is difficult to accomplish by a single evaluation procedure (Howsam, 1963). See also Performance Appraisal Interviews, page 174.
- There is the tendency for the teacher to be shaped by a rating scale (or other measurement device) regardless of whether or not the scale validly measures good teaching. He may conform even though the measurement does not include necessary behaviors or includes behaviors not pertinent to the work. Especially under situations of merit pay, states Link (1969), "A rating scale becomes a shaping device no matter how supportive the supervisor, the principal, or the system."

Wagoner and O'Hanlon (1967) found that the extent of the benefit a teacher receives from evaluation is related to his attitude toward evaluation, i.e., a teacher with an unfavorable attitude benefits less than one who views evaluation positively. This implies that if teachers view evaluation as the attempt to eliminate the ineffective rather than to help all teachers toward better and better performance, adverse effects could outweigh the benefits of evaluation (Oregon Education, 1966).

The Development of Criteria for the Evaluation of Teachers

Generally, a criterion is defined as a standard of level of attainment against which comparisons may be made. For purposes of selection, a criterion is that behavior (i.e., teacher performance) or result of behavior, (i.e., learner outcomes), which one is trying to predict. In evaluation of personnel, a criterion also pertains to standards dealing with behavior and results-of-behavior; however, rather than being something which one is trying to predict, it is used to assess the attainment of some process or outcome objective.

Although the problems associated with criterion development for selection and evaluation purposes are similar, there are certain aspects of the criterion problem concerning teacher evaluation which evaluators should be concerned with. As a result, the purposes of this section are: (a) to discuss the nature of criteria dealing with teacher evaluation, and (b) to present certain ideas found in practice and the literature which should be considered in making decisions about the criteria to be employed.

Nature of Criteria

⇒ CONCLUSION

*The nature of evaluation is similar to the nature of selection criteria in that criteria of teacher effectiveness vary from one job to another, and they tend to change over time.
(viewpoint: Ghiselli, 1956; and others)*

In the evaluation of teachers, most practitioners and researchers (Ware, 1964; Smith, 1967; Fishman, 1967; Ryans, 1963, 1957; Barr, 1941; Schalock, 1967) agree that a teacher functions in a highly complicated setting, in which his performance is influenced by the interaction of his personal characteristics and various situational variables. Personal variables include such components as intellectual and affective structures, perceptual habits, age, and level of training; while the situational variables might include such components as the characteristics of the learners present, the materials being used, the goals of the institution, the instructional objectives, and the characteristics of the physical setting.

Figure 4.1 presents representation of the interaction of the teacher's behavior and the situational components. The two-way arrows indicate the dynamic interaction between teacher behavior and the multitude of situational variables;

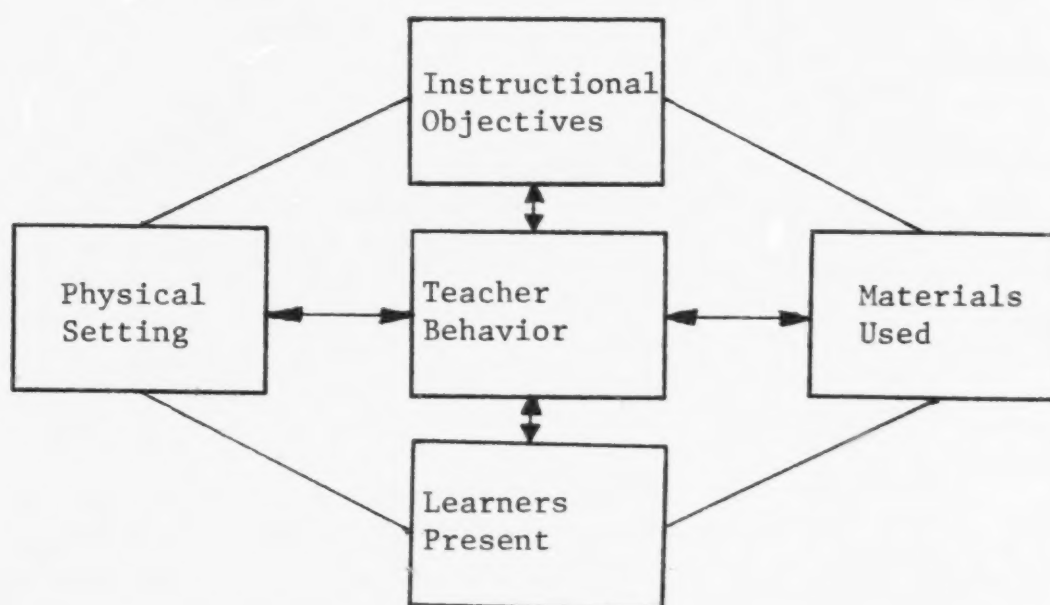


Figure 4.1. A Representation of the Interaction of Teacher Behavior and Various Situational Variables, (Modified from Schalock's 1967 Model).

the other lines show the interrelationships of the situational variables. As the diagram also shows, the situational variables provide the framework within which the teacher operates; however, since both teacher and environment interact with each other, there is a mediating effect on teacher performance. The implication of this diagram is that criteria determined for teacher performance should take into consideration the personal attributes the teacher brings to the job and the situational constraints placed on him by the job.

Deciding on Criteria

The initial step in teacher evaluation in a local school district is that of determining what is considered to be important in teaching. This first step is crucial to the evaluation process, since what is considered to be important becomes the basis for developing:

- specific teacher behaviors and results-of-behavior desired (identified as criteria)
- ways to measure teacher behaviors and results (that is, criteria measurement)
- comparisons of measurements and desired outcomes (evaluation).

In determining what is considered to be important in teaching, i.e., the criteria, three questions must be answered:

- Who will decide on the criteria and their importance?
- What procedure will be used to acquire information used in making this decision?
- How will the data gathered be analyzed?

Pooled Judgments

Who will decide? As mentioned in Chapter 3, criteria which are based on an individual's intuitive judgment are built on the weakest of foundations. Consequently, it was suggested that criteria decisions would be improved if based on the pooled judgments of experts. Ryans (1957:43) points out that the group of experts (jury of authorities) may be constituted in a number of ways:

1. The jury may consist of the totality of the known group of authorities or experts (e.g., all of the principals and supervisors in the school district, all members of a teachers' professional organization, all college teachers of a specified subject matter, etc.). Of course, such a procedure usually is not feasible unless the totality of experts is relatively small.

2. The jury may consist of a random sample from the roster or membership list of a known group of authorities.
3. The jury may consist of a purposive sample drawn from the totality of authorities as defined.
4. The jury may consist of a sample of individuals who have been specially trained to make authoritative judgments regarding the criterion (e.g., job analysts, trained observers, etc.).

In education, method 3 probably is most often employed; however, Ryans suggests that it is the weakest of the four techniques. He also warns that methods 1, 2, and 4 do "not necessarily insure valid criterion description, but they represent distinct improvements" (1957:43).

⇒ CAUTION

Inadequate statements describing what is important in teacher behavior and results of behavior often result from using biased judges. (viewpoint: Ryans, 1957:43)

A jury or group of experts in a school district, selected for purposes of criterion determination, also may include combinations of teachers, principals, supervisors, students, board members, and parents working together. Such a co-operative effort often has a positive effect on morale.

⇒ CONCLUSION

Involving teachers as well as other members of the educational community in the development of criteria may help establish more accurately defined criteria and may improve the morale of the professional staff. (practice: schools)

Where school districts require the establishment of goals for individuals, decisions regarding who will decide on what these goals will be are made by: (a) the individual teacher, (b) the principal or the supervisor, (c) the individual and the principal cooperatively, or (d) a committee composed of peers and/or administrators (the latter possibility might also include the individual teacher). Also, in establishing the broad goals for individuals, board members, students, and parents may be consulted.

⇒ CONCLUSION

Regardless of how the goals are established, output and procedural goals are more likely to be understood and attained when they are cooperatively developed by the teacher and principal (or supervisor) and are written in discriminating behavior terms. (practice: schools, industry)

Determining Criteria

What procedures to use in criteria determination? Numerous procedures have been employed for acquiring information from people in order to determine what is considered to be important in teaching (Ryans, 1957; Ghiselli, 1955; and others). Ryans (1957:44) has listed six possible techniques which have been used for this purpose.

- Free-response--statements of what is important and the degree of importance, based upon the general impressions held by various members of the educational community.
- Check-list response--individuals indicate what is important and the degree of importance on a previously compiled list of desired behaviors and outcomes.
- Position analysis--detailed systematic description of what is important for success and the degree of importance by individuals trained in carrying out such an analysis.
- Critical incidents description--detailed descriptions of actual incidents and behavior that have been observed by experts to be "critical" in learner growth and development. Note: this technique primarily deals with teacher behaviors as opposed to learner outcomes.
- Time sampling--detailed tabulation of teacher behaviors based upon systematic observation and recording, with special attention to the conduct of observations during representative samples in time.
- Psycho-physical methods--members of the jury determine what is important and the degree of importance using such methods as ranking, paired comparisons, etc.

In education, the first two techniques probably have been used more frequently than the others. However, from an objective and rational viewpoint, the first two methods are the weakest. In view of the nature of criteria for teacher evaluation, probably the method which holds the most promise is the "position analysis" technique. Evidence of the worth of this technique in improving the

selection process has been provided by Palmer (1970) in his research using a completed "position analysis outline" (PAO) for improved selection decisions. (See page 36 of this report for identifying the composition of the PAO.)

How will the experts' responses be analyzed? Once experts respond to the criteria dimensions they think important, a final judgment must be made concerning what criteria will be employed and how the criteria for evaluation will be operationally defined. It is recognized that regardless of whether an individual or a group makes these decisions, a value system will be involved; however, to make such judgments without a broader perspective of other's views promotes a biased, unsystematic, and subjective approach which may tarnish the criteria descriptions.

⇒ CONCLUSION

*When decisions regarding the development of criteria are based upon empirically supported and rational considerations, relevance and usability are more likely to be ensured.
(position: Ryans, 1957)*

A number of authors (Guion, 1961; Ryans, 1957; and Brogden and Taylor, 1950) strongly recommend that a systematic and comprehensive approach be used to develop criteria. Such an approach would be designed to provide a rational analysis of the relevancy of the possible criteria; it would hypothesize descriptions of the criterion elements and use various statistical techniques (e.g., factor analysis) to identify significant operational behaviors pertinent to the attainment of the instructional objective (Ryans, 1957).

The significance of employing a more objective approach is that evaluation of teacher behavior and learner outcomes can meet with success only to the degree that criterion judgment is based on reliable information regarding the essential attributes and behaviors involved in teaching. Consequently, such information must be based on carefully defined and rigorously controlled evaluative research and not on "armchair" methods (Turner and Fattu, 1960).

Some Important Teaching Behaviors

This section has focused on the nature of criteria for assessing teacher effectiveness, and it has provided some suggestions as to the procedures for determining evaluative criteria. It has not been the object to specify what the important teaching behaviors are, because the behaviors and results-of-behavior deemed important for teacher effectiveness are specific to each situation. However, in

reviewing the literature, some behaviors have been identified which those responsible for criteria selection and development should be cognizant of.

⇒ CONCLUSION

Although the relationship of teacher behaviors to student outcomes is usually limited to a specific situation, some behaviors have precipitated desirable outcomes in more than one type of situation. (research: Flanders, 1969)

The following behaviors have precipitated desirable outcomes in more than one type of situation:

- The teacher makes statements that use ideas and opinions previously expressed by pupils. This behavior appears to be a type of accepting or nurturant behavior.
- The teacher uses a cognitive style which is flexible to the extent that he deals with two kinds of pupils differently or adjusts strategies from one time period to another.
- The teacher uses a complex conceptual framework. This appears to be related to the idea that the diagnostic task is necessary to teaching, i.e., that assessments must be made in relation to goals and student errors, that choices must be made for remedial procedures. Immediate and long-range problem solution are facilitated by this behavior.
- The teacher provides a "set" or "advance organizer." Students appear to process information more effectively when they are provided a framework within which to process the information.

Procedures for developing criteria for teacher evaluation are moving from an inferential base to one that is much more descriptive. For example, Soar (1968) indicated that some of the newer procedures in developing criteria emphasize attempts to describe rather than evaluate. Criteria are developed that do not require value judgments on the part of the observer. Under these circumstances, the observer does not have to reach prior agreement about the nature of effective teaching.

Acquisition and Analysis of Data for Teacher Evaluation

In practice, the activities of defining teacher performance criteria and identifying data collection and analysis procedures parallel each other, i.e., their development is characterized more by interaction than by a sequential relationship. The criteria provide the focus of the evaluation by telling the evaluator and the evaluatee what behavior, objects, or events are important for determining performance success; the procedures of data acquisition specify how data will be gathered and the measuring instruments that will be used; and the techniques of data analysis, i.e., statistical methods and data processing, allow for the ordering of the data collected so that interpretations and conclusions may be made.

⇒ SUGGESTION

Evaluation procedures may be the same for all professional personnel regardless of level or position. This does not imply that the criteria will be the same; but the procedures for establishing criteria, the methods for collection and analysis of data, and the use of data for decision purposes will be similar enough to incorporate into the same policy or strategy. (viewpoint: research staff)

Planning for Data Acquisition

Planning for data acquisition is one of the crucial steps that is often passed over lightly in evaluation, and consequently, many evaluation efforts fall short because of lack of it. Plans for data collection should take place, if not at the same time, immediately following the determination of criteria for teacher evaluation. Included in the planning effort should be the following considerations:

Planning Considerations

- Where will the data come from?
- What form will the data be collected in?
- What will be the sampling procedures?
- Who will collect the data and what training will the collector need?

Sources of Data

One of the first considerations in planning for data acquisition is to identify the sources of the data. Typically these sources are identified early in the evaluation process at the time the criteria for evaluation are

defined. However, it is important that the evaluator examine possible sources which may have been overlooked during the earlier stages so that he has information about the types of data that may be gathered and the types of measuring instruments which may be employed. Generally speaking, the sources of data include individuals who might observe classroom and out-of-classroom behavior:

Classroom

- students
- teacher
- peers
- supervisors
- teacher aides

Out-of-Classroom

- same as in classroom
- other para-professionals
- custodians
- parents
- other community members

Because most data collected concerning teacher evaluation evolve from some "human activity," evaluators must be aware of the ethical standards involved in the collection and use of data in evaluation. As a result, the evaluator may wish to consult with people who acquire information as well as teachers to identify any limits in gathering data. This procedure may facilitate the collection of data by eliminating some of the resistance and negative feeling toward the data collector and the purposes of the evaluation effort.

⇒ SUGGESTION

Access to data may be facilitated if the evaluator, prior to data acquisition, consults with the sources of data to explain the purposes of the evaluation and to identify that information which is "off limits." (viewpoint: Birnbaum, 1970)

A second consideration in planning for data collection concerns the form in which the data will be gathered, i.e., are the data in "raw" form or are the data in "reduced" form? Table 4.1 provides some examples of raw and reduced data which may be used for evaluating teaching behavior and the results of teacher behavior.

Table 4.1

Examples of Raw and Reduced Data
Gathered for Teacher Evaluation

	Raw Data	Reduced Data
Process Information	audio or video recordings of teacher behavior	supervisor's written comments about teacher's performance
Outcome Information	achievement test manuscripts answer sheets	letter grades assigned by teacher students' grade point average

Usually the purpose of the evaluation determines the form of the data desired, and the form of the data affects how it will be collected and analyzed. However, if the data are not readily available in the form desired, then adjustments in the collection and analysis procedures are necessary.

Sampling Procedures

The sampling procedures employed in evaluating teachers is another important consideration in planning for data acquisition. Sampling procedures have been designed to acquire only portions of the total amount of data available from the identified sources. In teacher evaluation, sampling techniques have been employed for two primary reasons: it is realistically impossible to collect and analyze all of the available data (e.g., one cannot hope to observe and analyze everything a teacher does), and the techniques allow the evaluator to distribute the information demands over the available time and data sources, in order not to overtax the endurance of any individual at any given point in time (Birnbaum, 1970).

⇒ SUGGESTION

Observation of teachers should be carefully spaced over time to yield the best appraisal results. (viewpoint: Mitzel, 1967, and others)

When employing observational techniques, systematic or non-systematic, as criterion measures, sampling is always a problem. It is important to note that when interaction analysis techniques are to be used, multiple observations need to be spaced carefully over time to adequately sample a teacher's behavior (Mitzel, 1967, and Schalock and Beaird, 1968).

⇒ SUGGESTION

When samples of behavior are gathered by observational means, teachers and students should be given some time to become acclimated to the presence of the observer. (viewpoint: Schalock, 1967a)

It is important that when observations are made either by a live observer or with the help of a video tape recording device, trial observations are conducted as the teacher and students become accustomed to having an observer in the class with them. Research findings are somewhat sparse as to the influence observation has on those being observed.

Schalock (1967a) reports that some research (Thompson, 1963; Paul, 1964) on mother-child interaction in the home suggests that as much as 5 - 7 hours of observation are needed before observer influence becomes constant. There is a good possibility that a shorter trial period would suffice in a classroom; however, until sufficient research has been conducted on this problem, data gathered using observational techniques should be interpreted with some caution.

Training of
the Data
Collector

A final consideration in planning for data acquisition concerns the training of the data collector. If the data to be collected are to be in raw form, little training of the collector is required. However, if data are to be reduced at the time of collection, then the collector must be capable of accurately recording and reducing the data for analysis and interpretation.

For example, when studying the interpersonal communications between a teacher and students, an observer (data collector) must provide data which are valid and reliable. Therefore, the observer must undergo extensive training to memorize the definitions of the behavior categories used for classifying teacher and student messages; he must master the use of the behavior record form and the other recording procedures so that accurate judgments can be made; and he must demonstrate that his records are consistent from one observation to another.

⇒ SUGGESTION

Individuals responsible for acquiring "reduced" data should be provided extensive training in reduction procedures to ensure valid and reliable information. (viewpoint: research staff)

Selection of Measuring Instruments

In the evaluation of teachers, measurement techniques are central to the acquisition of data from the standpoint that

- they sometimes influence the kind of information to be gathered, i.e., in considering what data are to be gathered, it is necessary to contemplate the type of measure that will be used;
- they help order the available data; and
- they help reduce the error of informal human observation.

As Schalock (1969, V-26) so aptly put it,

In the absence of instruments for the extension of the senses, or for the control of conditions, human observations are liable to error. Instruments are a means for approximating more closely the property under observation.

⇒ CONCLUSION

Teacher evaluation is dependent upon measurement as a basis for information gathering, because it is through measurement that the evaluator ascertains the quantity or quality of something. (viewpoint: Schalock, 1968)

Practical
Criteria for
Instrument
Selection

In selecting measures for evaluation, a major rule of thumb is "select the instrument which best fits your purpose," i.e., identify the measurement techniques and strategies which provide the data desired. Although this guideline is quite simple, too often choices are made on the basis of familiarity with or easy availability of instruments rather than because of their appropriateness. Obviously, such a situation is a case of the "tail wagging the dog."

To help in making appropriate decisions regarding the kinds of measures to use or develop, Lyons (1970) has suggested four practical considerations or restraints:

- Cost Factor - Priorities must be determined for the kinds of data needed and decisions made to allocate money among these priorities.
- Time Factor - Some measures take a great deal of time to use and to develop properly and if not enough lead time is available, the use of such instruments will not be feasible.
- Source Factor - It does no good to decide on a particular instrument that would do the job, allocate appropriate resources, and then find out it is not possible to collect the data because no data source is available.
- "Taboo" Factor - An otherwise satisfactory instrument can meet with resistance if it conflicts with local traditions or custom.

The cautions discussed in Lyons' restraints reinforce the idea that planning for data acquisition and the instruments to be employed is essential in establishing teacher evaluation procedures.

Other Considerations

Besides the practical considerations listed above for choosing or developing an instrument for teacher evaluation, one should also consider the characteristics which indicate adequacy of any measuring instrument, viz., relevance, reliability, validity, fidelity, and ease of administration. A number of authors (Lyons, 1970; Schalock, 1968; Kerlinger, 1964; Thorndike and Hagen, 1962; Ryans, 1957; and others) describe those characteristics as follows:

- Relevance--This quality is sometimes referred to as validity, i.e., the extent that the measure appears to be measuring that which it says it is.
- Reliability--This quality concerns the consistency or reproducibility of the measure, i.e., the instrument continues to maintain its stability from one application to the next.
- Validity--This quality pertains to the fact that the instrument measures that behavior, object, or event for which it was intended to measure.
- Fidelity--This quality relates to the degree to which the response to the instrument parallels the true or actual performance (e.g., skill tests in

physical education have a greater degree of fidelity than do paper and pencil tests).

- Ease of Administration--This quality involves the practicality of the instrument in the evaluation, i.e., its availability, scoring ease, etc.

⇒ CONCLUSION

Data acquired for teacher evaluation purposes may be analyzed and interpreted with a greater degree of confidence if in the evaluation process the following two questions can be answered positively:

- *Will the measuring instruments employed fit the purpose of the evaluation and will they do an adequate job?*
- *Have the measuring instruments been implemented accurately?*

(viewpoint: research staff)

Some Uses of Measuring Instruments

Thus far, this section has focused on some approaches to planning for data acquisition and on some criteria for selecting appropriate criterion measures. The purpose of the remainder of this section is to present some of the techniques for gathering data for teacher evaluation.

A variety of measuring instruments are available for obtaining data for purposes of teacher evaluation. To provide the reader with some information as to how these measures have been employed, the discussion has been organized into three broad categories:

- direct measurement of teacher behavior
- indirect measurement of teacher behavior
- measurement of the results-of-teacher-behavior--i.e., learner outcomes.

Direct Measurement of Teacher Behavior

In-classroom Behavior

Direct measurement of teacher behavior refers to the assessment of a teacher's performance as he attempts to influence learner development within some instructional setting. This form of assessment employs measures ranging from highly systematic measurement techniques (e.g., systematic observation using trained observers) to less systematic techniques (e.g., casual observation by untrained observers).

Character- istics

Systematic Observation Procedures.* Measures in this category are designed to minimize, as much as possible, the influence of observer bias. Characteristics of these measurement techniques include:

- prior analysis of the criterion behaviors;
- clearly defined behavior category dimensions;
- use of an observational record for recording purposes;
- establishment of inter-rater and intra-rater reliability; and
- intensive training of the observers in observational and recording techniques.

⇒ CONCLUSION

Systematic observational procedures are designed to minimize and control, as much as possible, the influence of observer bias in instrument application. (viewpoint: Medley and Mitzel, 1963; and others)

Complexity of Systems

Systematic observational techniques generally are categorized as either single-factor systems or multi-factor systems (Medley and Mitzel, 1963; and Rosenshine, 1970). That is, either they are intended to focus on one aspect of the teacher's behavior at a time (e.g., the number and type of questions transmitted during a given lesson), or they are

*For an extensive discussion of systematic observational procedures, see Medley and Mitzel's chapter, "Measuring Classroom Behavior by Systematic Observation," in Gage's (ed.) Handbook of Research on Teaching (1963). For a review of observational devices, see Simon and Boyer, Mirrors of Behavior (1967 - 1970). (See Bibliography.)

intended to focus on two or more aspects (e.g., analyzing the verbal and nonverbal messages transmitted between teachers and pupils as well as the changes in the instructional setting during a given lesson).

⇒ NOTE

Single-factor systematic observation systems are quite manageable by local school officials in measuring teacher behavior. (viewpoint: research staff)

Because of the complexity of the multi-factor systems, local school officials may find single-factor systems (e.g., Flanders Interaction Analysis System) more manageable. The basis for this position does not rest on the ability of those in the local setting, but on the practical reality that the complexity of the multi-factor systems require intensive training and retraining of observers. Also, such systems may not provide a justifiable return for the expenses incurred.

History

The rise of systematic observational procedures for studying teacher effectiveness dates back to a study by A. S. Barr reported in 1929, Characteristic Differences in Teaching Performance of Good and Poor Teachers of the Social Studies.

Many of the studies employing these techniques, prior to the 1950's, "took the form of supervisors' check lists designed to rate teachers rather than to study teaching." (Kliebard, 1966 : 46). The greatest use of systematic observation procedures has been within the past two decades, and most of these studies have been of a descriptive nature rather than evaluative (see Medley and Mitzel, 1963; and Flanders, 1969). The major purpose of these studies has been to study the interaction between teacher and pupil by keeping a running record of selected behavioral events that occur within the classroom.

Applications

Flanders in his recent book, Analyzing Teaching Behavior, has illustrated the two major applications of interaction analysis in the study of teacher behavior (1970:3).

- One application of these activities is to help an individual develop and control his teaching behavior.

- A second application is to discover through research how to explain the variations which occur in the chain of classroom events. These explanations are meant to focus on teaching behavior and its relationships to classroom interaction and educational outcomes.

⇒ CONCLUSION

The appropriateness of the systematic observation system to be employed is directly related to the kind of information desired. (viewpoint: Schalock, 1967a)

Choosing Appropriate System

A basic question that needs to be asked when systematic observation techniques are to be employed is, "Does the category system fit the purpose for which the data are being collected?" Since all observation systems have different strengths and weaknesses, it is important that one should do a thorough analysis of the kind of information desired before selecting a procedure to be used. That such an effort is required is exemplified in a recent study by Medley and Hill (1969) in which they compare the Flanders instrument with Medley and Mitzel's OScAR (Observation Schedule and Record) instrument for analyzing teacher-learner interaction. They reported that Flanders' technique was easier to use and was more sensitive to student behaviors, while OScAR focused more on instructional and management behaviors. They concluded that both systems are good, but the user must decide which is best for what he is trying to measure.

Schalock (1967a) suggests that if verbal behavior is the object of focus, then behavior should be recorded with audio tape and a system such as Flanders Interaction Analysis System employed. If both verbal and nonverbal behaviors are desired, then a multi-factor system such as the Teaching Research System for the Description of Teacher Behavior in the Classroom (Schalock, 1967b) can be used for directly observing a classroom or observing a videotape recording of a classroom interaction.

Increase in Use

Reviews of research findings (Medley and Mitzel, 1963; Soar, 1968; Flanders, 1969; and Rosenshine, 1970) indicate that studies using systematic observation procedures (especially interaction analysis) to describe teacher behavior are increasing. Also increasing is the development of new observation systems (Simon and Boyer, 1967, 1970; and Boyd and DeVault, 1966). However, the state of

the art is still in a somewhat primitive stage. Contributing to this situation is the fact that it is difficult for prospective users to obtain good instruments from the original authors. Where the author has made it a point to disseminate the observation system he has developed, this problem has been alleviated. For example, Flanders' dissemination of his interaction analysis technique through workshops, monographs, etc. has contributed to the more frequent use of his instrument.

Adaptation

A second contributing factor to the primitive state of the interaction analysis art is the difficulty practitioners have in adapting a particular system to their particular needs. This problem has been identified in discussions with numerous school people, and it is one of the many areas in which training and dissemination workshops are needed.

Some exceptions exist; for example, Flanders' system has been adapted to the needs of its users to some degree (see Amidon and Hough, 1967). Another system that is currently addressing itself to the problem is a system developed by Parsons (1969), known as Guided Self-Analysis. Through much effort, Parsons has programmed the learning of his system so that teacher and supervisors can use only those parts of it which fit their needs.

⇒ SUGGESTION

Training both supervisors and teachers in the use of an interaction analysis system will provide a common language for analyzing the teaching-learning process. (viewpoint: Flanders, 1963, and others)

Research studies which have used interaction analysis techniques show that our understanding of the structure to measure desired outcomes and function of the verbal chain of events in the instructional setting has greatly improved (Flanders, 1970). In addition, the training of both supervisors and teachers in the use of interaction analysis has provided a common language for analyzing the teaching-learning process (Flanders, 1963; Hill, 1966; Thoreson, 1963; Moskowitz, 1967; Hough and Ober, 1966; and Malone, 1968).

Non-systematic Observation Procedures. Direct measurement of teaching behavior also includes those non-systematic observational techniques which are either "analytical" or

"general" (Ryans, 1957:52). Traditionally, in evaluating teacher behavior via observational means these procedures have been employed in one way or another because they are easy to construct and use. Generally, analytical procedures include rating scales and check lists whereas general procedures consist of broad or global assessments of teacher behavior. Although analytical techniques are somewhat more systematically structured than those in the general category, they are still prone to error. This is primarily due to the characteristics common to both analytical and general techniques--the observer, trained or otherwise, withholds his judgment until the end of the behavior sequence. This contrasts with interaction analysis techniques which usually consist of a continuous record of predetermined categorical sets.

⇒ CONCLUSION

The chief advantage of non-systematic observational techniques (e.g., rating scales) is that the observer is able to consider clues from a variety of sources before he makes his judgment. (viewpoint: Rosenshine, 1970)

Studies of teacher evaluation have been reported in which pupils, peers, and supervisors have assessed teacher behavior using various non-systematic observational techniques. In many cases results indicated discrepancies in the observer ratings. For example, Poppleton (1968) used a modified critical incident technique to identify discrepancies in the assessment of student teachers by supervisors and cooperating teachers. Her results show that the ratings of the cooperating teachers were normally distributed, but the grades assigned by the supervisors were negatively skewed in the B grade category. "This," she concludes, "no doubt arises from the recognition of the seriousness of failure by those responsible for awarding the certificate."

What can be done to guard against the problems rising from subject judgments and rater discrepancies? The following suggestions are made to answer this question:

⇒ SUGGESTION

To improve the accuracy of using non-systematic observational techniques the following might be considered:

- *Clearly define the focus of the evaluation;*
- *Develop specific, low inference items*;*
- *Use a common record form; and*
- *Provide adequate training for the observers.*

(viewpoint: research staff)

Self-evaluation of behavior. A third means to direct measurement of teacher behavior is having the teacher evaluate his own behavior. Self-evaluation of behavior differs from other direct measurement procedures in the following manners:

- There is no need for involving an external observer in the measurement process.
- Behavioral criteria are determined by the teacher rather than by some external source.

The advantage of this approach is based on the idea that evaluation should be an internal process rather than an external one (Rogers, 1954).

⇒ CONCLUSION

*The chief advantage of the self-evaluation approach is that the teacher has the opportunity for self-improvement without an external threat. The chief disadvantage is that the approach does not readily relate to an outside criterion.
(viewpoint: Ryans, 1957; and others)*

*Following his recent review of the use of rating scales for instructional evaluation, Rosenshine (1970) reports that specificity of items enhances the interrater reliability to the point where such measures are comparable to systematic categorical observation systems.

Problems

The self-evaluation approach for teacher pre-service and in-service training has been subjected to a number of studies, some of which have permitted total self-analysis by the teacher (Jensen, 1968); others have included an individual or group for critiquing purposes (Thoreson, 1963; Bush and Allen, 1964). Two other disadvantages, other than the one mentioned above, have been found: teachers are not able to analyze specific aspects of their behavior because they are without a conceptual frame or systematic observation system, and teachers lack technical competence for operating the audio or video equipment necessary for capturing their behavior for analysis.

⇒ SUGGESTION

Before implementing the self-evaluation approach for improving instruction:

- *Teachers should be provided with a framework (an observational system) for analyzing and interpreting their own behavior.**
- *Teachers should be provided with the technical competence needed for operating the various new media used for recording their behavior.*

(viewpoint: research staff)

Out-of-Classroom Behavior

Indirect Measurement of Teacher Behavior. Indirect measurement of teacher behavior deals with assessment of out-of-classroom teacher behavior such as activity in organizations, extraclass activities, contribution to curriculum development, interactions with parents, hobbies, and education. Although indirect measurement sometimes is not incorporated in any formal evaluation of teacher behaviors, such information is ample in quantity, often

*The notion for providing a teacher with some framework for evaluating his own behavior stems from the rationale that a person's predisposition affects his perception, i.e., what is in a person's "head" gives him the set for what he sees. A good analogous situation is the biologist who, without a taxonomy for categorizing what he observes through the microscope, makes only gross observation.

pertinent, and relatively easy to obtain. Weaknesses of such procedures include the problem of limited sampling of the behaviors being measured and scoring difficulty (Schalock, 1969).

⇒ CONCLUSION

Advantages of measuring out-of-classroom teacher behavior are:

- *Information is ample, often pertinent*
- *Data are easy to obtain*

Disadvantages are:

- *Occurrence of limited sampling*
- *Occurrence of scoring problems*

(viewpoint: Schalock, 1969)

An Example

An example of indirect measurement of teacher performance is a study conducted by Popham and Standlee (1958), which was designed to explore the relationship between teachers' out-of-school activities and their professional performance. Principals' ratings and the Minnesota Teacher Attitude Inventory (MTAI) were employed as measures. Four conclusions were stated in the study: (a) professional performance does not relate to the whole range of out-of-school activities, rather only to particular activities; (b) measures on the MTAI are related to the professional out-of-school activities of the teacher; (c) performance, as measured by the principal's ratings, is related to non-professional activities; and (d) the MTAI and principals' ratings assess different dimensions of the teacher's professional performance (p. 29).

Measurement of Pupil Outcome. Many educators agree that the most satisfactory criterion measure is the product of performance; the emphasis is on the result or outcome of instruction rather than the process of instruction. The major reason for preferring pupil outcomes as the measure of teacher effectiveness is that the goal of teaching is learner development, and therefore the teacher should be accountable by providing evidence that learning has occurred.

Measures

Pupil outcomes include how pupils think, perform, and feel. Consequently, the traditional measures used for gathering data for these preferred criteria include:

- knowledge and ability measures--tests designed to measure what a person knows
- skill performance measures--tests designed to measure what a person can do
- attitudinal measures--measures designed to assess a person's feelings or desires
- interest measures.

Numerous writers have discussed in great detail the construction and use of instruments for measuring pupil outcomes. As a result, no discussion of these specific measures will be provided in this paper.*

*For those who are interested in a more intensive discussion about the selection and construction of specific instruments, see the following sources:

- Buros, Oscar Kristen (ed.) The Sixth Mental Measurements Yearbook. Highland Park, N. J.: Gryphon Press, 1965.
- Cronbach, Lee J. Essentials of Psychological Testing. New York: Harper Brothers, 1960.
- Guilford, J. P. Psychometric Methods, New York: McGraw-Hill, 1954. Chapter 2 Rating Scales, pp. 262-301; Ch. 15, Test Development, pp. 414-469.
- Kerlinger, Fred N. Foundations of Behavioral Research: Educational and Psychological Inquiry. New York: Holt, Rinehart and Winston, Inc., 1964. Part 7, Methods of Observation and Data Collection, pp. 463-599.
- Schalock, H. E. Measurement. In CORD: National Research Training Manual. 2nd Edition. Jack Crawford (ed.) Monmouth, Oregon: Teaching Research Division, Oregon State System of Higher Education. Chapter V, 85 p. 1968.
- Super, Donald E. and John O. Crites. Appraising Vocational Fitness. New York: Harper and Row, 1962.
- Webb, E. J., D. T. Campbell, R. D. Schwartz, and L. Sechrest. Unobtrusive Measures: Nonreactive Research in the Social Services. Chicago: Rand McNally and Co., 1966, 225 p.

Problems

Although a product criterion measure is preferred, its use presents a number of problems in teacher evaluation. As Ryans (1957:55) states:

The chief disadvantage in the use of products as criterion measures is the difficulty of adequately controlling external factors in order to provide reasonable assurance that the hypothesized product is truly a product of the criterion behavior rather than that of a wide range of uncontrolled conditions occurring prior to and concurrently with the criterion behavior.

⇒ CAUTION

As the complexity of the situation increases and control declines, the ability to attribute pupil learning to a specific teacher's behavior diminishes. (viewpoint: Ryans, 1957)

The control question discussed by Ryans constitutes one of the major problems in evaluating teacher effectiveness. Whereas experimental research uses the laboratory to handle such a problem, evaluation in the field has had difficulty in dealing with it adequately. As a result, evaluative study of pupil outcomes is often confounded and contaminated by the effects of various uncontrolled factors.

Research Example

The study by Turner, et al., (1963) represents an example of coping with the product criterion problem. The purpose of the study was to examine the effect of problem-solving ability of teachers, as measured by the "Mathematics Teaching Tasks," on pupil achievement and supervisory ratings of the skills of teachers in teaching the unit. Results from the study indicate that pupils under two successive high-scoring mathematics instructors, perform significantly better than those under pairs of low-scoring teachers.

⇒ SUGGESTION

When using pupil achievement as a criterion measure, consideration must be given to the suggestion of teachers influencing the pupil's achievement. (research: Turner, et al, 1963)

Besides focusing on learner outcomes in terms of pupil gain scores, assessment of pupil behavior in the classroom, which is assumed to be influenced by teacher behavior, may be conducted (Ryans, 1957 ; and others). Generally, this form of evaluation has been found most often in situations where skill performance on the part of the learners is the primary object of instruction (e.g., drama, speech, and physical education classes); however, in view of the increasing use of systematic observational procedures for assessing teacher verbal behavior, it appears that in the not too distant future observational techniques will be modified for the purpose of describing the pattern and level of pupil verbal and nonverbal behavior in classes intended for cognitive and attitudinal development.

Some Procedures for Data Acquisition in School Districts.

Discussions with people in various organizations leaves the impression that a variety of evaluation procedures are being used. "Management by objectives" procedures have been in use for several years in business organizations and are beginning to be discussed seriously in school systems; self-evaluation procedures are seen by many as being the most satisfactory way to improve instruction; and peer evaluation holds promise for others to satisfy requests for accountability.

One view which may be pertinent to many of these procedures was expressed by a supervisor who operates within a "management by objectives" framework: "The individuals who indicate job satisfaction are those whose supervisor communicates with them regarding their performance."

The following ideas seem pertinent to acquisition and analysis of information in school systems:

- Teachers and administrators benefit from a school board policy which identifies the purposes and general procedures to be used in evaluation of personnel; in addition, a benefit is derived when the school board identifies what types of data on teachers it desires in order to establish policy and provide information to the public.
- If an evaluation form is being used with a group of teachers, all new teachers should examine the form early in the year (and perhaps complete some of the information) in order to become thoroughly acquainted with the criteria for evaluation.

- Vice principals and department chairmen are involved in collection of information, but their role in the total evaluation process may be different from that of the principal.
- Where student evaluation is used on a formal basis, the student reactions are usually anonymous and acquired at the option of the teacher.
- One of the limitations of peer evaluation is the hesitancy of peers to make critical comments.

Post-Observation Processes

Purposes of the Post-Observation Conference

When should decisions be made regarding needed supervisory treatments, change of assignment, promotion, or release from employment?

- Should the supervisor enter the post-observation conference with decisions clearly in mind?
- Should he make joint decisions with the employee during the process of the conference?
- Or should the conference be considered part of the information-gathering process and decisions be delayed until after the conference?

The answer to these questions are not easily found in research on teacher evaluation. Noland and Moylan (1967: vi) indicate that a wide variety of practices occur in business.

Some firms use either an informal or a standardized rating sheet, but do not make the results known to the employee. Other organizations use a standard evaluation procedure and rating form and evaluate the employee in an interview at which he is present. Still others see the employee only after the evaluation has been completed.

In both business and schools some kind of meeting between supervisor and employee often follows observations of the subordinates' work. Usually this meeting is referred to as an "evaluation conference" by educators and as a "performance appraisal interview" by business personnel. Essentially, both are used to fulfill the same purposes.

In business the diversity of these purposes has greatly increased since the appraisal interview has been seen as

a means to develop subordinates as well as evaluate them (Solem, 1960).

⇒ NOTE

The performance appraisal interview can involve such diverse functions as the evaluation of performance, motivation of the subordinate, warning, praising, developing, treating the subordinate as an individual, recommending future courses of action, and the differential granting or withholding of an entire system of rewards and punishments. (research: Solem, 1960)

Effectiveness
of
Performance
Appraisal
Interviews

Research conducted by Meyer and Walker (1961); and Meyer, Kay and French, (1965) attempted to assess the effectiveness of performance appraisal interviews. They reached four conclusions:

- Criticism has a negative effect on the achievement of goals because it builds defensiveness.
- Praise has little effect one way or the other on the achievement of goals.
- Mutual goal-setting improves performance.
- Coaching should be day-to-day, not a once-a-year activity.

Rose (1963) reached the same conclusion that the manner in which feedback is provided to teachers can halt or enhance growth and improvement. Treating each teacher as an individual, according to how each responds to supervisory help can be accomplished through the appraisal interview or conference.

⇒ CAUTION

The teacher more readily accepts decisions based on observations and conferences if the major focus is on improving rather than fault finding. (research: industry, schools)

Rigid feedback procedures need to be carefully evaluated. The number of improvements that can be accomplished at one time is limited, and teachers must be spared the overwhelming feeling of failure accompanying a long list of "needed improvements" (Noland and Moylan, 1967). While even the successful teacher has failure experiences, he should not be led to believe that he has so many as to lose his sense of personal worth or emotional stability. On the other hand, the tendency of supervisors to be overly generous with praise causes appraisals to have little value as a basis for making decisions (Lopez, 1965; French, J., 1966).

Prior Goal
Setting

Since a variety of decisions may be made on the basis of the evaluation of teachers, it is essential that all who are involved in the system understand the purposes and procedures as well as the roles of the various participants. For example, a merit promotion board might review evaluation data using a different procedure from that of the principal or supervisor assisting the teacher in instructional methods. Likewise, a group decision might be made by an evaluation committee responsible for reviewing all probationary teachers for retention. Unless differing roles and procedures are understood by all involved, misunderstanding and low morale can result.

⇒ SUGGESTION

Plans regarding supervisory treatments, assignments, promotion and release should become part of a goal-setting activity in order for all participants to understand the bases for evaluation. (position: research staff

Many authors refer to the importance of prior (and mutual) goal setting. For example, Redfern (1963) prefers that the evaluation of teachers in an "umpiring" sense be discontinued in favor of a "coaching" relationship. The joint establishment of performance goals and standards before and during the school year reduces the need for the traditional annual rating decision. Rather, through contrasting his achievement with predetermined standards, the teacher knows how he is doing at all times. Just as Meyer (1961, 1965) cited the advantages of mutual goal setting, Odiorne (1965) emphasized the need for a standard of performance which has been made clear to provide motivation toward specific goals. Except when related to the next set of goals, making judgments after performance has occurred has little value (McNeil, 1967).

Change of
Assignment
Decisions

A decision to change the assignment of a teacher is sometimes made on the basis of evaluation of performance. Such a change is justified on the assumption that teachers behave differently in different situations. For example, a given set of teacher behaviors will affect one group of students differently than another group; therefore, a teacher exhibits more effective behavior in one situation than in another. This assumption appears to be justified by the research literature (Flanders, 1969; Mitzel, 1960; Ellena, Stevenson, and Webb, 1961).

Designing
In-service

Most decisions made in the evaluation process are based on information regarding the individual teacher. When the data from individual teachers are cumulated and analyzed, the information may be useful for making decisions concerned with the design of in-service courses for groups of teachers. Such courses can be designed around weaknesses that are reported through the evaluation process.

Personnel
Files

One of the most significant issues in record keeping for evaluation purposes is policy regarding personnel folders. Policy generally takes one of two forms: either the personnel file is open to the teacher at his request, or it is open to administrative personnel only.

⇒ CONCLUSION

Open personnel files and reports to the Boards of Education tend to reduce anxiety and rumor among those being evaluated. (practice: education)

When the file is closed to the teacher, it is assumed that the file contains confidential recommendations obtained for promotions. Under the circumstances, some systems provide copies of all evaluation reports to the teacher; some systems require four copies so that the principal, the personnel director, and the assistant superintendent (or curriculum personnel) receive copies also. One central office person is then responsible for reviewing each evaluation report to suggest actions that might be taken for improving individual teachers or to recommend changes in the system. When the official record system is open to the teacher, principals sometimes keep a personal file which is not officially a part of the district's record system.*

*This tends to subvert the intention of open files, but nevertheless is practiced.

Assessment of the Evaluation Process

Need for Assessment of Process

Too often, after a system has been developed for the evaluation of teachers, schools neglect to develop a systematic approach to judge the effectiveness of that system. If the teacher evaluation process is not periodically analyzed for problems, and if concern for assessment of teacher evaluation only occurs when any one particular teacher seems in difficulty and is in jeopardy of losing his position because of lack of competence or effectiveness, it becomes very difficult to discover who really is at fault: the individual teacher, the system for teacher evaluation, some aspect of implementing the evaluation system, or a combination of these elements.

When a school district continuously monitors the teacher evaluation process, they have constant sources of feedback. This allows for anticipation of problems and, as in the case of the ineffective teacher, may point to modification in supervision before problems reach a point where alternatives are limited to forced resignation or cancellation of contract.

Problems

Some evaluation problems may not derive from the system itself nor the intended procedures but may be due to problems of implementation. For example, if adequate time is not spent in observation and providing feedback to teachers, the goal of instruction improvement may not be served. On the other hand, a thorough examination of goals may indicate that they are unreasonable for a particular teacher or group of pupils. Other sources of problems may be procedural.

⇒ NOTE

Analysis of difficulties necessitates examination of the realism of goals, the adequacy of their implementation, and the effectiveness of the teaching procedure. (practice: schools)

At the heart of assessment of the evaluation process is the coordination of information sources which supply data for analysis of difficulties. If one is particularly concerned with the problem of retention of teachers, personnel procedures might include the early period of employment as an extension of the selection process. This emphasizes the need for coordinating the evaluation process with other personnel procedures, and for developing a record system which facilitates this coordination.

⇒ NOTE

A comprehensive personnel record system will facilitate the coordination of selection, evaluation, and supervision-of-assignment functions. (practice: industry)

Sources of Information

Usually, the personnel record system contains the data acquired during the selection process and the formal evaluative comments from principals or supervisors. An additional source of information which is useful and easy to obtain is the exit interview. When teachers leave a school system, information can be sought regarding:

- why they are leaving the system
- teacher-perceived problems in supervision procedure (which includes evaluation practices)
- teacher-perceived problems in selection and placement procedures.

Because it has been noted that one of the problems involved with evaluation of teachers is due to the lack of training of those who do the evaluation, this is a problem to anticipate.

⇒ SUGGESTION

Public school systems often treat the training of those who evaluate teachers rather casually. However, training of personnel involved in teacher evaluation is likely to increase validity, reliability, discrimination, and feelings of certainty regarding decisions. (practice: industry)

Many times a viewpoint is expressed that school administrators are professional people, they know their job and what they desire in teachers, and they know how to determine when good teaching is occurring. This view is expressed in spite of research which indicates that the reliability and validity of administrators' judgments is generally low when compared with student gain (Ellena, Stevenson, and Webb: 1961).

Suggestions for Training Evaluators

Training evaluators is crucial to the evaluation process. The following procedures have been used for improving the performance of those responsible for evaluation of teachers:

- elective in-service courses or courses at universities
- entire principals' meeting devoted to evaluation
- general explanation given at principal's meeting
- workshop or clinic from one to three days; including assistance from an outside consultant, observation of films of live classrooms, co-rating for reliability, discussions
- written manuals describing procedures, explaining forms and policy
- central office personnel working individually with principal

In systematically acquiring information to assess the effectiveness of the teacher evaluation system, an answer to these general questions must be sought:

- Is improvement of instruction occurring?
- Are teachers given information and resources to improve?
- Are students learning?
- Are teachers with problems showing growth or being selected out?
- Does the teaching staff understand how they are accountable?

Because these questions are complex and difficult to answer, data about the teacher evaluation system must be as systematically sought as the data collected on individual teachers. In addition, the means for gathering information about the evaluation system should be planned concurrently with the development of the teacher evaluation system.

Analysis of Information

If analysis of the data indicates a modification is needed, the revision process begins at the point where change should take place. For example, where data collection procedures are inadequate, then a review of purposes is not needed; but rather one should change the data collection procedures. Assessment may indicate that principals need more training in observation procedures or in methods of feedback to teachers.

Assessment of teacher evaluation is not a closed system. It occurs within the larger context of the total operation of schools and within the context of the local community and society.

⇒ CAUTION

When school districts do not consider the multiple contexts within which the teacher evaluation system operates, they increase the probability of ignoring important considerations in planning for problems that may occur. These contexts include:

- *human relations with teachers and community*
- *development of school policy*
- *teacher training*
- *teacher organizations and negotiations*
- *evaluation of other personnel*
- *total school program evaluation.*

Human Relations with Teachers and Community

Because evaluation of teachers is a human process as much as it is an organizational program, continuous efforts must be made to develop reliable measures of effective teacher behaviors which relate to pupil outcome in specific situations. Pupils, parents, and other community members are at the very least indirectly involved in teacher evaluation and school districts must help them understand just how and to whom teachers and administrators are accountable.

Development of School Policy

School policy, developed by local school boards, is what gives direction to administrators. It is the public expression of a philosophy. Administrators must not only adhere to personnel policies which reflect that philosophy, but professionals have an obligation to inform and interact with the public and thus provide means to policy change.

Teacher Training

Teacher evaluation seems to be increasingly more inter-related with teacher training. As new certification standards and intern-type training programs evolve, the new information about teacher effectiveness must be fed back into the personnel policy development effort of local school districts.

Teacher Organizations and Negotiations

No longer do teacher organizations divorce themselves from issues involving evaluation and accountability. Many teacher organizations have already acquired negotiation agreements with local boards. State and national organizations have obtained necessary legislation which gives teacher organizations bargaining powers.

Regardless of one's stand on the issue of teacher rights, and whether or not a labor-management relationship will emerge between teachers and administrators, negotiations will occur and they will include discussions about and planning for improved teacher evaluation processes. This fact should give even more impetus to local research efforts regarding effective teaching and systems for evaluating that teaching.

Evaluation of Other Personnel

Systems for evaluating teacher effectiveness are, of course, related to the quality of those who administer that system and to the quality of those who are part of it (secretaries, cooks, etc.). No less rigorous evaluation procedures should occur, and consequently no less comprehensive personnel systems should be developed for school personnel other than teachers. Some believe that only when systematic evaluation of evaluators (e.g., principals, supervisors) occurs will teachers more readily accept accountability functions.

Total Program Evaluation

The evaluation of teachers is part of the larger efforts a school system makes in assessment of the total program. For example, changes in curriculum, groupings of pupils, school plant design, and instructional materials have an effect upon and are affected by teacher evaluation.

Summary:
Assessment of
Evaluation
Process

The evaluation of professionals provides information needed to judge effectiveness of the individual teachers and allows better judgments to be made about individual modifications in training and placement. The assessment of the evaluation

process gives the information needed to make judgments about the effectiveness of that system, including how well the system:

- measured teacher goodness
- planned the process
- implemented the system
- trained and supervised those who are evaluating teachers.

Even if teacher effectiveness is measured carefully by process and product, and even if evaluators have been trained to observe teachers, only when the assessment of that process is precise and systematic will teacher evaluation contribute fully to the total enterprise of education.

Summary

The evaluation of teachers may serve many purposes:

- to improve teaching
- to reward superior performance
- to supply information for modifying assignments
- to protect either the individual or the organization in legal matters
- to validate the selection process
- to provide the basis for planning for individual growth and development.

Improvement of instruction is considered by most educators to be the most important purpose for evaluation. However, the other purposes mentioned above must be considered in designing evaluation procedures.

The potential benefits of teacher evaluation are many; however, there are possible adverse effects which the evaluator should consider when designing evaluation plans:

- the conflict when both the function of accountability and assistance are expected in the same evaluation
- the tendency for the teacher to be shaped by the measurement device used in the evaluation.

Once the purposes for the evaluation effort are established, the subsequent move is to develop precise statements which indicate what teacher performance and learner outcomes are desired, i.e., what criteria will be used as standards to evaluate teachers. In determining what behaviors and outcomes are important in evaluating a teacher, the evaluator should recognize that multiple criteria must be established for each specific teaching position and these criteria must be reviewed frequently to assess their appropriateness.

To answer the basic question of "What is important in teaching?," these subsequent questions are in order:

- Who will decide what is important?
- How will the information be acquired for deciding what is important?
- How will this information be gathered and analyzed?

In answering the first question, it is suggested that in a school district, criteria decisions will be enhanced if judgments from a jury of authorities (teachers, administrators, parents, students, etc.) are pooled. Such a cooperative effort gets away from one person or a biased group making the decision and often has a positive effect on morale. In terms of the second question, many procedures can be used for acquiring information needed for criteria selection. Probably the most effective means is to have individuals conduct a position analysis for each position so a detailed description of what is important can be obtained. Analysis of the information obtained will be improved if some empirical, rather than "arm-chair" method is employed.

In planning for data acquisition and analysis, major consideration must be given to the measuring instruments to be employed since it is recognized that evaluation is highly dependent upon measurement as a basis for information gathering.

Consequently, selecting an adequate and competent measure is crucial, and the evaluator should consider the following practical restraints:

- the cost of acquiring the data
- the time it will take to gather the data
- the availability of adequate data sources
- the resistance of sources to evaluation.

In addition, the evaluator should consider the following questions:

- Is the instrument relevant?
- Is it reliable?
- Is it valid?
- Is it similar to the actual criterion performance, i.e., what is its fidelity?
- Is it easy to administer?

The measuring instruments used for gathering data for teacher evaluation usually can be categorized by identifying whether the purpose of the evaluation is to assess the process of teaching (the teacher's performance in and/or out of the classroom) or the outcome of teaching (the learner's development following instructional treatment). In both categories, measuring techniques range from systematic procedures (e.g., interaction analysis systems used by a trained observer) to non-systematic procedures (e.g., the casual observation by a principal). In determining which procedure is best, the evaluator should recognize that the procedure to be employed should be directly related to the kind of information desired.

In both business and schools, some kind of meeting between supervisor and employee often follows observation of the subordinate's work. This meeting is referred to as an evaluation conference by educators, and as a performance appraisal interview by business personnel. Essentially, both are used to fill the same purposes.

In holding post-observation conferences, it is recognized that a teacher more readily accepts decisions where the major focus is on improving rather than fault-finding. In terms of the availability of the information gathered from the observations and conferences, open personnel files and reports to the Boards of Education tend to reduce anxieties and rumor among those being evaluated.

Any system of evaluation of teachers should be periodically analyzed for problems. Some evaluation problems may not derive from the system itself, but may be due to problems of implementation. Too often, after a system has been developed for the evaluation of teachers, schools fail to develop a systematic approach to judge the effectiveness of that system.

In assessing the evaluation process, analysis of difficulties necessitates examination of:

- the realism of goals
- the adequacy of their implementation
- the effectiveness of the teaching procedure.

Chapter 5

TRENDS AND MAJOR IDEAS

Purpose	This chapter presents trends and major ideas found in practice and research on selection and evaluation of teachers. The purpose is to re-examine the ideas collected and organize them in a way that helps to establish their significance. The previous chapters have presented a series of detailed ideas by relating them to sequences of selection and evaluation activities as they occur in practice. However, this chapter presents a different and more global perspective of the selection and evaluation process, examining themes which tend to unify the ideas and discussing trends which appear to be significantly affecting research and practice.
Major Topics	Six major ideas seem to permeate both research and practice in the selection and evaluation of teachers. They are: ● systems analysis of total personnel procedures; a consideration of relationships of selection, evaluation, and supervision ● complexity of relationships among various aspects of selection and evaluation; a rejection of simple relationships as a means of explaining complex phenomena ● management by objectives ● emphasis on self evaluation ● the product-process relationship, i.e., the relationship of outcomes and the procedures used to produce them ● management of information in a systematic fashion.
Significance of Perspective	Why is it important to view ideas from a more global perspective? Basically, the advantage of such a perspective is to provide an alternative way of looking at ideas in order to help determine their significance. As one becomes enmeshed in the details of particular findings and specific procedures, he can become so engrossed in examining the details of research reports that he fails to raise the question of whether the

research should have been conducted in the first place; so interested in understanding the way an administrator has solved one problem that he overlooks another which should have been solved but was not.

The details must be examined, of course, and questions must be raised regarding what someone else has written or said: what are the bases of the statements made; are they knowledge or opinion; are the conclusions justified on the basis of the evidence; how generalizable are the results; how much redundancy is there between this statement and those made by others? Also, there is the problem of determining what general conclusions may be drawn and how they may be communicated to others.

But examination of such details leaves certain essential questions unanswered; for example: What themes unify the related ideas? What trends are significantly affecting research and practice? What major ideas represent the essence of multitudinous activities and their underlying motivations?

As one searches for trends and major ideas, he is affected by his background and current surroundings; but he is influenced by new information also. Where the flow of ideas is exceptionally strong, he is forced to reconsider, to expand his views, and to synthesize the new with the old; he is stimulated to adopt a broader perspective.

Personnel Systems: The Relationships of Selection, Evaluation, Supervision

Why
Examine
Total
System?

In many scientific areas, the development of knowledge has proceeded by subdividing large areas of investigation, studying the smaller units intensively, and then synthesizing the findings from individual investigations. This approach has developed specialists who have vested interests in particular small areas of investigation and has created a situation in which it may become difficult to determine the relationship of the special areas to the larger scientific area.

In a similar fashion, administrative practices in large organizations tend to subdivide labor and create specialists with narrow views of the total organization's operation. As time passes, subunits carry out rituals that may contribute very little to the other subunits or to the productivity of the organization. Systems analysis

procedures have helped to correct some of these problems by emphasizing the need to understand fully, through an examination of the total system, how the organizational subunits function.

⇒ CONCLUSION

The systems analysis approach has affected the examination of school personnel systems and has precipitated discussions of the relationships among the functions of selection, evaluation, and supervision and inservice training. (practice: education)

The systems approach is particularly significant when one understands that the results of an excellent selection process can be nullified by poor supervisory treatment or ineffective inservice training programs. Also, if the evaluation process is inadequate, one might never know how effective the selection process was or what type of supervision or inservice training should be used.

⇒ SUGGESTION

School districts should perceive selection and evaluation procedures as part of a total personnel system which also includes supervision. (viewpoint: research team)

Relation- ships

Figure 5.1 illustrates the relationships of these three components of the personnel system. It will be noted that the selection process is preceded by recruitment, or the development of an adequate applicant pool. Once an individual has been employed, he is given an assignment, with certain tasks to perform; the assignment also includes supervision, inservice training and evaluation. In Figure 5.1, the arrow from "select in" to "supervision and inservice training" indicates that, at the time of selection, a recommendation might be made that the person receive a particular type of supervisory assistance or be enrolled in a special inservice course.

Within the "assignment," information from "evaluation" flows in three directions: to "supervision," indicating that evaluative information can assist in changing the nature of a person's assignment or his supervisory

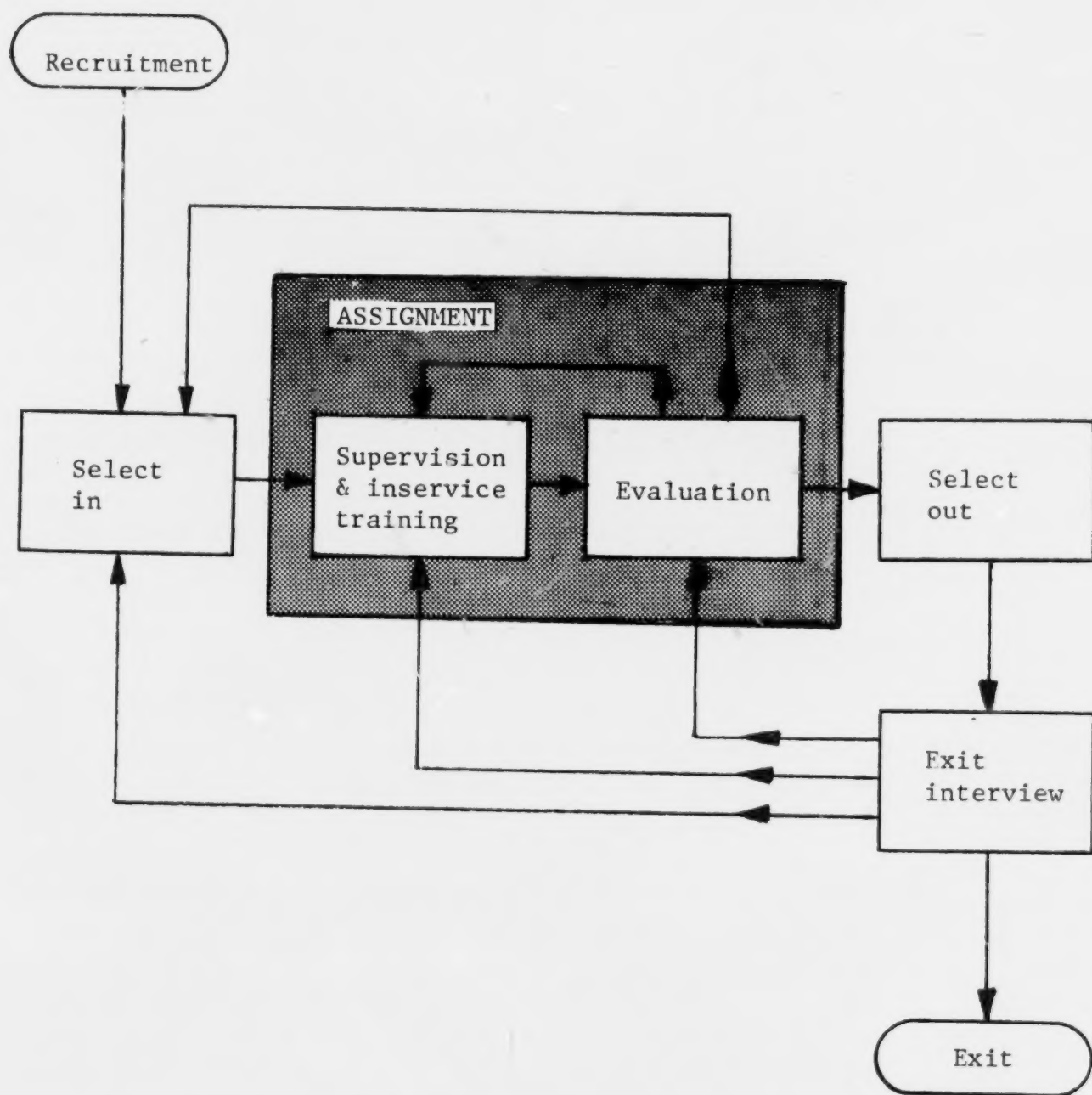


Figure 5.1. Personnel Systems: Selection, Evaluation, Supervision.

treatment; to the "select in" box, indicating that evaluation provides a basis for assessing the effectiveness of the selection process; and to the "select out" box, indicating that some individuals will be released from their assignment on the basis of evaluation. When a person is released, an exit interview is conducted to acquire information which will be used to improve the selection, evaluation and/or supervision functions.

Figure 5.1, by illustrating the relationship among the three major functions of personnel, shows how the total personnel system can be analyzed for flow of information and for elements of the system which might cause errors. One may also examine the system from a decision and research viewpoint.

Decision Making

Based on decision theory, one might examine a situation from the viewpoint illustrated in Figure 5.2. A situation exists and the decision maker asks a question regarding what is likely to happen in that situation. After action has been taken, the decision maker is then able to ask another question, viz., "what did happen?"

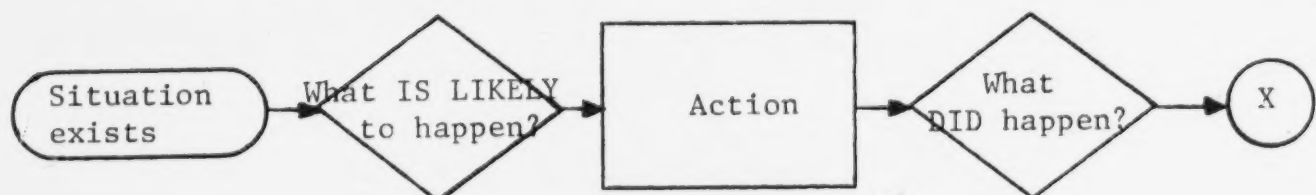


Figure 5.2. A Simple Decision Situation.

This simplified diagram illustrates the points at which the decision maker asked two questions, but what is the function of the questions? When the decision maker asks what is likely to happen (Step 2), he is really trying to make a prediction on the basis of the information available. When he asks what did happen (Step 4) he is evaluating the consequences of his action. Figure 5.2 can be modified to indicate the nature of decisions at Steps 2 and 4 by naming the types of question being asked. (See Figure 5.3.)

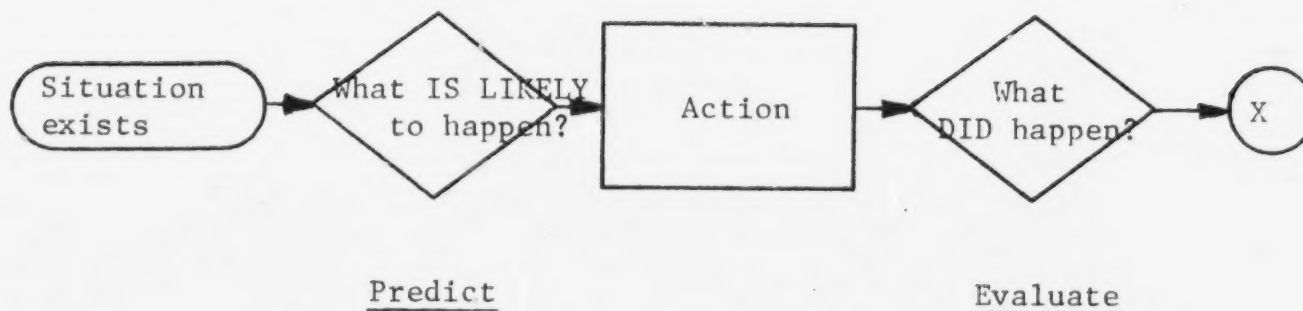


Figure 5.3. Two Types of Administrative Decisions: Prediction and Evaluation.

The
Research
Function

But predictions and evaluations can not be made without information. A person has two choices regarding how he will make decisions: (a) he can make decisions (either predictions or evaluations) solely on the basis of information available at the time the decision needs to be made, or (b) he can systematically collect further information to make these decisions. If he chooses the latter option, he performs a research function. Figure 5.3 can be modified once more to indicate at which points the research function is performed.

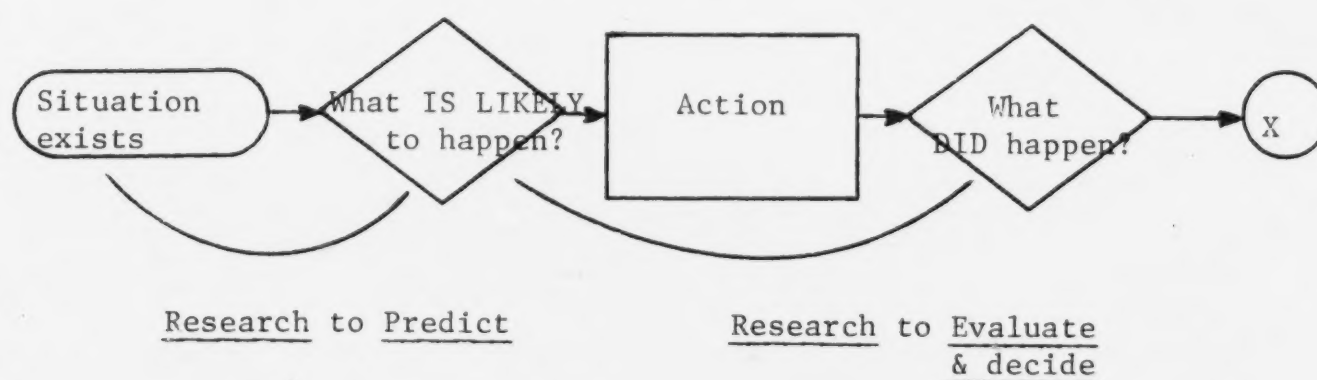


Figure 5.4. The Contribution of Research to Administrative Decisions.

At Step 4, we have added "decide." This shows that the decision maker evaluated what did happen and then decided what action to take. We can now draw Figure 5.5

which summarizes selection and evaluation procedures from a decision making viewpoint.

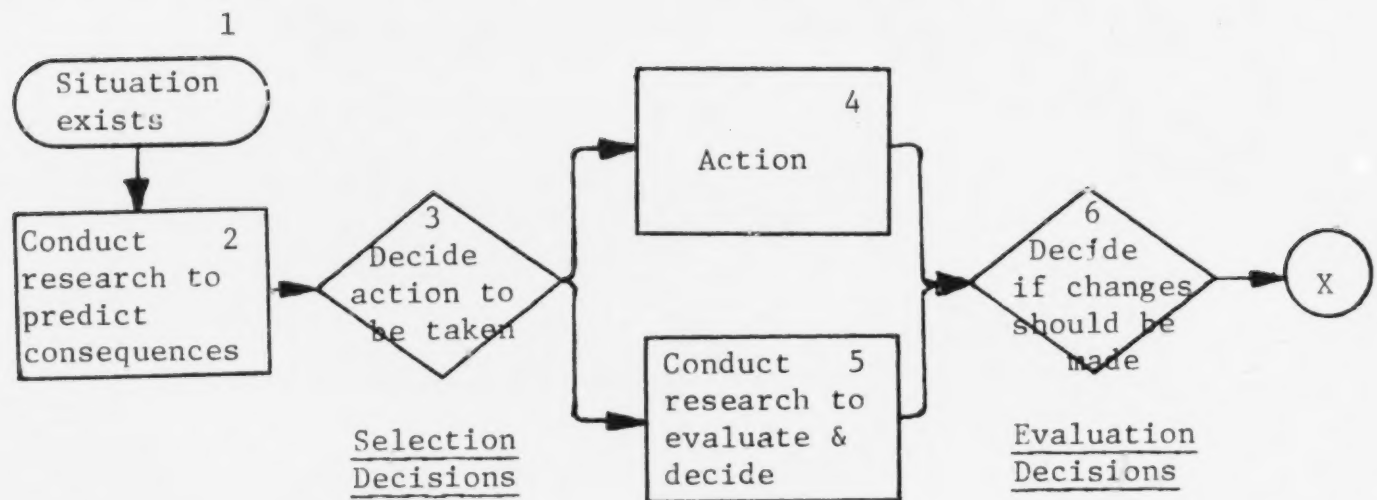


Figure 5.5. An Illustration of How Research Contributes to Making Selection and Evaluation Decisions.

⇒ SUGGESTIONS

The following suggestions are made on the basis of analysis of Figure 5.5.

- *For a personnel system to function effectively, research should be an integral part of the system.*
- *Research should be conducted for two reasons at two different times: to predict consequences for selection decisions, and to evaluate results of actions so that evaluation decisions may be made.*
- *Research to evaluate actions should be conducted concurrently with the action taken rather than on a post hoc basis.*

(viewpoint: research staff)

Complexity of Relationships

Simple Model

For some time, research on teacher effectiveness was conducted on the basis of a relatively simple model, consisting of a single measure of teacher effectiveness (a criterion) and its relation to a group of potential correlates (predictors). Figure 5.6 illustrates this model.

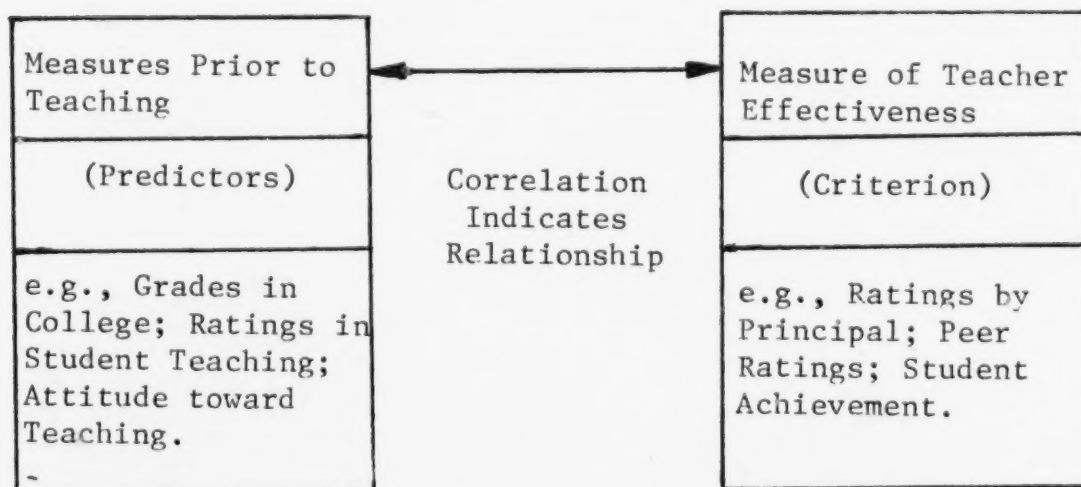


Figure 5.6. A Simple Model for Conducting Research on Teacher Effectiveness.

Many times the criterion consisted of a rating by a principal or supervisor, although ratings by students or peers and measures of gain in subject mastery were also used. The object seemed to be to determine "What makes a good teacher?" The assumption was that some universally acceptable criterion of teacher effectiveness was available and, therefore, could be predicted and controlled.

This view also permeated practices in the profession, and many administrators were unwilling to consider how the unique behaviors of teachers related to specific teaching situations. Consequently, these administrators chose teachers on the basis of characteristics they considered important for all positions, resisting transfer of an unsuccessful teacher to a new situation on the grounds that a good teacher could do a good job regardless of assignment. Some teachers can; however, not all do.

⇒ CONCLUSION

Teachers behave differently in some situations than in others and a given set of teacher behaviors will affect one group of students differently from another group; therefore, a teacher may exhibit more effective behavior in one situation than in another. (research: Gage, 1963; Flanders, 1969)

Recent Approaches

Recent research and practice indicate that the significance of situations to teacher behavior and the effect of different teacher behavior on students has been recognized. Consequently, current models used to study and explain classroom learning are more complex (and more realistic) than prior models. The newer approaches take into consideration more aspects of the situation and of teacher behavior in attempting to explain why students learn as they do; they have abandoned a search for teacher behavior which "works" in all situations for teacher behavior which appears to be productive in similar situations.

Current emphases in research have precipitated study and discussion of the following:

- use of several measures of teacher effectiveness rather than a single overall indicator

- relationships among these various measures of teacher effectiveness
- improvements in the judgment process used in evaluation
- satisfaction of pupils, teachers, or administrators as measures of teacher effectiveness
- relative stability and reliability of data regarding behavior and characteristics of teachers.

Within the framework of selection research, the new models have discouraged the attempt to answer scientifically the question of what is ultimately desirable in teacher behavior. Rather, the present models are based on the idea that it should be possible to study the relationship between particular teacher actions and the results of these actions when people in the organization have particular values.

Bases for Choices

A formal examination of the decision process, as it relates to selection, forces attention toward the problem of rigorously identifying what it is that determines people's choices. Some selection personnel behave as if they have solved this problem by making their process somewhat less formal. A moment's reflection will surely indicate that such is not the case--probably they have repressed the problem rather than solved it. Their ostrich-like behavior allows the question of "What will be our basis for choice?" to re-emerge every time new information is obtained or new applicants apply. Selection personnel must have some basic means to match person and position. A lack of specific correlations between measures available prior to teaching and measures of teacher effectiveness (i.e., validity coefficients) for their specific situation should not cause personnel people to take evasive action, however.

⇒ SUGGESTIONS

Local school systems should not ignore the problem of specifying bases for selection choices. Districts may begin by specifying

- *necessary teacher behaviors*
- *desirable teacher behaviors*
- *outcomes expected to be precipitated by these behaviors*

The information specified can become the basis for later evaluation of the selection decision. (viewpoint: research staff)

As necessary and desirable teacher behaviors are identified, care should be taken to insure that they represent the types of behavior that can be and have been observed in specific situations. They should not represent general after-the-fact impressions of an event, as such observations are notoriously untrustworthy and are likely to establish criteria that are biased in favor of factors such as general appearance, manner, and personal likeableness.*

*Thorndike (1949) gives an example of a relationship between likeableness rating and overall rating of effectiveness in the U. S. Air Force. Although likeableness was explicitly rated low in importance, it correlated very highly with overall rating--indicating an implicit importance to the raters. This implicit importance probably resulted because no formal strategy required pooling of ratings in a specified manner that would have prevented the overall impression from unduly influencing the specific observations.

Management by Objectives

The tremendous appeal to businessmen of the "management by objectives"* concept has been transmitted to school leaders. The basis of the appeal is simple: the concept offers the possibility of greater accomplishment and higher employee morale.

The concept consists of two basic assumptions:

Assumptions

- The clearer the idea one has of what he is trying to accomplish, the greater the chances of success.
- Progress can be measured only in terms of one's goals.**

From these two ideas, a variety of practices has developed, most of them variations of the following steps:

Steps

- setting objectives in terms of expected results
- working toward these objectives
- reviewing progress toward the objectives.

The flow diagram in Figure 5.7 is one illustration of steps that might be followed in a "management by objectives" procedure.

*The term was first used by Drucker in Practice of Management, 1954. See also Odiorne's work (1965) and that of the National Industrial Conference Board (1968).

**Although two terms, goals and objectives, are used almost synonymously in this presentation, it is recognized that many writers use the term "objective" only when referring to behaviorally or operationally defined outcomes, reserving the term "goal" for more global outcomes.

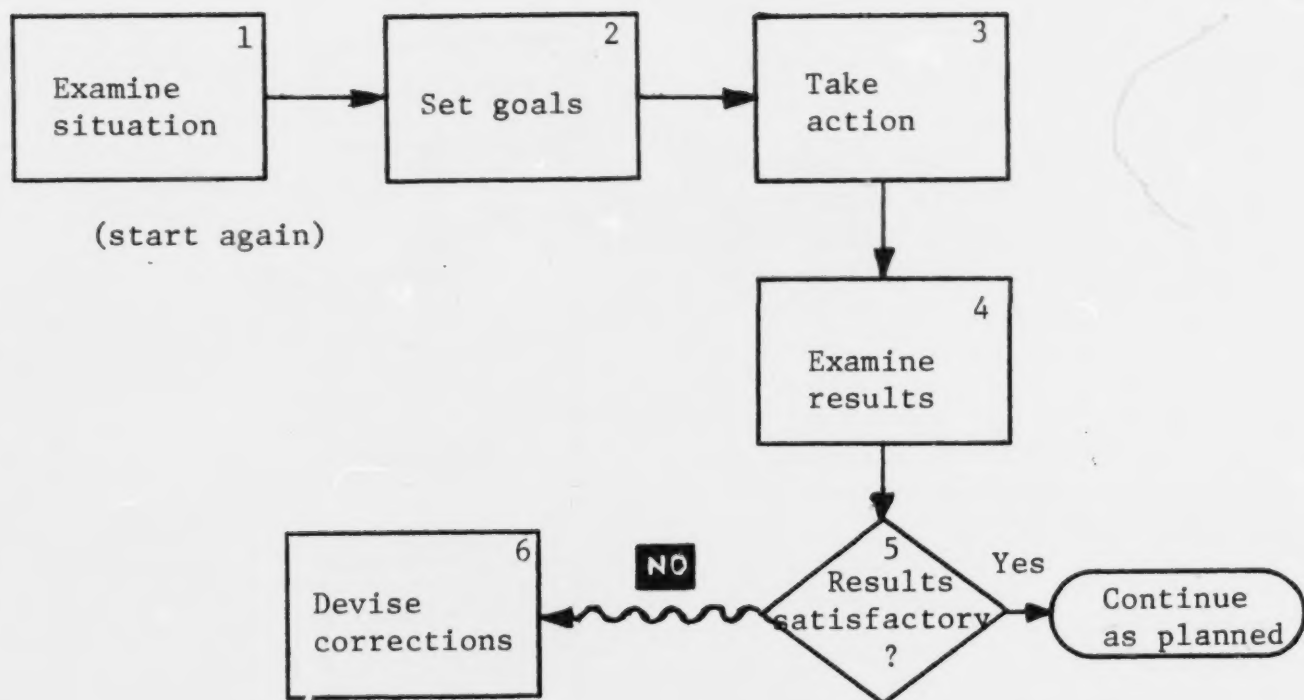


Figure 5.7. Diagram of "Management by Objectives" Procedures.

Usually Steps 1 (examining the situation) and 2 (goal setting) are performed at more than one level in an organization. For example, in a school district, the

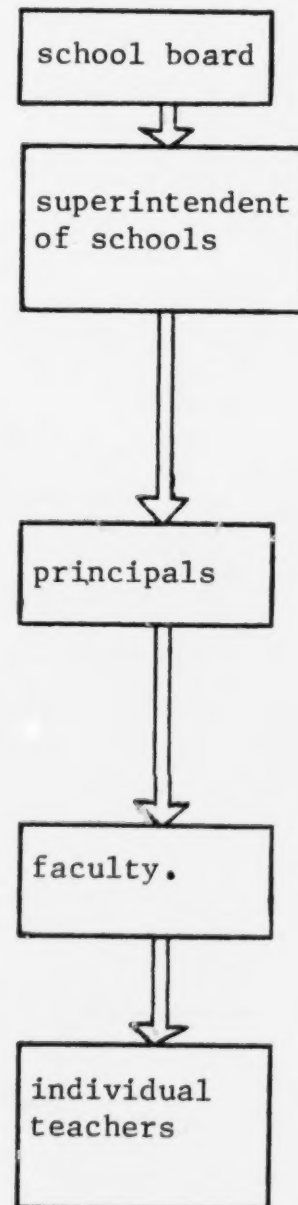
and the

transmit information regarding policy, a general view of the future, and the goals of the total school district to

so they have a meaningful context within which to formulate appropriate school building goals with a

The school building goals then become a basis for

to set specific objectives for teaching in cooperation with principals.



Description

Generally, the system of management by objectives can be described as a

process whereby the superior and subordinate managers of an organization jointly identify its common goals, define each individual's major areas of responsibility in terms of the results expected of him, and use these measures as guides for operating the unit and assessing the contributions of each of its members.

(Odiorne, 1965:56). Because of the nature of management by objectives, the concept is often linked with the term "accountability." Individuals are "accountable" for their contribution to the accomplishment of certain outcomes. The responsibility of individuals in the organization is not only to superiors, however.

⇒ SUGGESTION

It is the subordinate's responsibility to determine what resources will be needed to meet the agreed-upon goals and to inform his supervisor what they are; it is the supervisor's responsibility to see that these needed resources are made available. Each has a role to play in seeing that the subordinate's goals are achieved. (practice: industry)

In a school district, the individual teacher might draft his own proposed objectives, but within a context tending to keep his proposals consistent with the needs of the total organization. Approval of individual proposals by the principal keeps the objectives of the teachers tied into the mainstream of the system.

Each teacher would then be evaluated in terms of whether he meets the objectives he has set. Although the individualized aspect of the evaluation would require less structure than systematic analysis of classroom procedures, establishment of checkpoints where results would be measured and discussed would tend to facilitate a more continuous evaluation process.

Suggestion

If it is desired to use management by objectives procedures, the following points should be considered:

- Agreement on goals should be reached at linkage points in the organization (e.g., between the superintendent and principals, or principals and teachers), since commitment to goals is essential to make the concept work.
- Each person should understand the plan, know for which part he is responsible,

what results are expected, and how and when these results will be measured.

- The manner in which management by objectives procedures are initiated and used (e.g., in autocratic fashion or not) varies with organizations and affects morale and acceptance of the plan by employees.

Emphasis on Self Evaluation

Reasons
for
Interest

Whereas the management by objectives system has been developed because of a concern for managerial control mechanisms based on agreed-upon goals, the emphasis on self evaluation has a different motivational base. First, there is a reasonable assumption that teacher behavior changes most readily when a teacher is provided objective data regarding his own teaching. Since raw data are perceived by the teacher as "more objective" than data which have been analyzed and/or interpreted by an outsider, self evaluation begins with an audio or video tape recording of teaching behavior to be analyzed by the teacher himself. The teacher is then helped to develop ways to code and analyze the recorded behavior for the purpose of making judgments regarding its utility.

Second, the teacher's analysis helps to reduce the natural conflict that is often encountered when an outsider makes judgments about teacher behavior. Since the supervisor is placed in the role of a resource person to provide assistance in developing coding and analysis skills, he is no longer perceived as a threat to the teacher.

⇒ CONCLUSION

The common goal of the supervisor/principal and teacher in self evaluation is to provide a teacher the opportunity to improve his teaching skills by observing his own behavior in a threat-free atmosphere. (position)

The third base for self evaluation concerns the role of the teacher as a professional and whether he should be autonomous with regard to his own improvement. In effect, there is an expressed desire on the part of

the teacher to be the determiner of whether process goals were met and to decide on appropriate action to be taken. Examined in the light of Figure 5.7 (repeated from the preceding section), there is a desire for the teacher to be independent of outside supervision during steps 4, 5, and 6. Self evaluation tends to emphasize the analysis of procedures at Step 4 rather than the outcomes of the procedures.

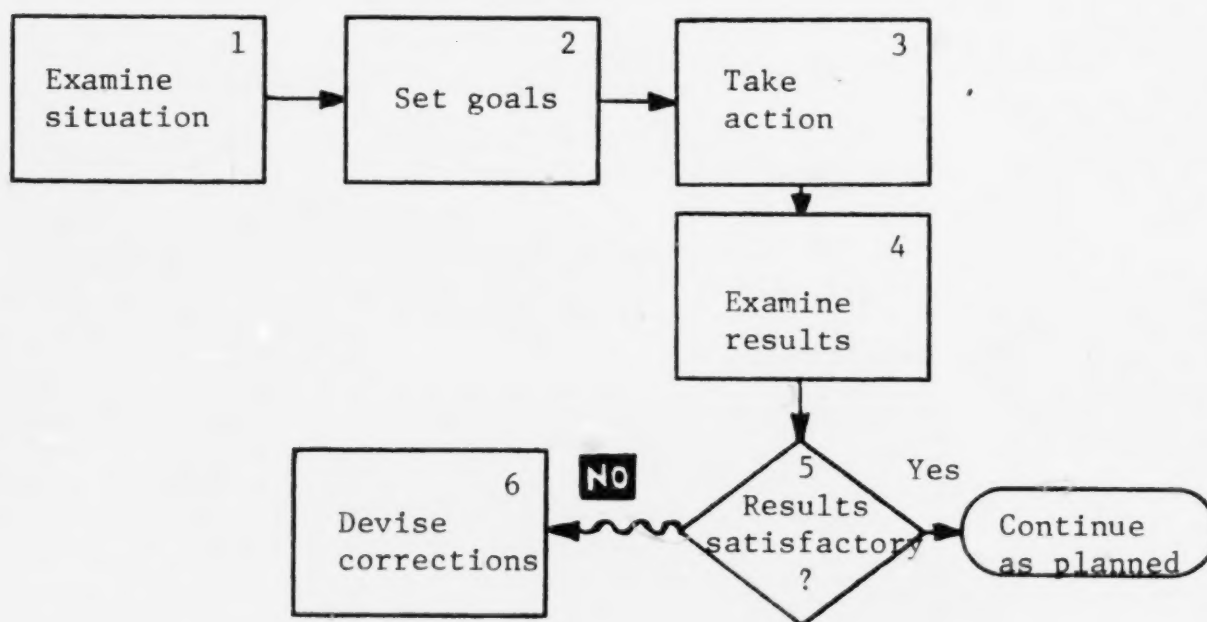


Figure 5.7. Diagram of "Management by Objectives" Procedures.

Other Procedures

Self evaluation can deviate from the description given thus far, however. Films or audio recordings can be used cooperatively with principals or with other teachers for the purpose of gaining insights into the meaning of teacher behavior and student responses in classrooms. In fact, self evaluation can evolve from regular external evaluations, where the external evaluator is adept enough to encourage and stimulate continuous self examination by his day-to-day contacts as well as his formal evaluations.

⇒ SUGGESTION

External evaluation of teachers should encourage self evaluation procedures and the continual diagnosis of individual teacher behavior. (practice: schools)

Student Feedback

Similarly, structured or informal feedback from students can provide information that helps teachers to see how

their behavior might be changed (Gage, 1963; Merlino, 1965). In fact, feedback from students is one source of information that offers great potential for teachers in the self evaluation process.

Feedback from students is:

- relatively easy to acquire
- generally reliable
- has face validity

Although some research has been done in this area (and some teachers use student feedback frequently) very little has been done to train students to be more sophisticated observers in order to provide more complex data for teachers.



SUGGESTION

Teachers should be encouraged to acquire feedback from students as a regular part of self evaluation procedures. (practice: schools)

Product-Process Relationship

History

The recent emphasis on accountability has tended to focus attention on the "product," i.e., evidences of student learning. However, the emphasis on accountability was preceded by a considerable period when most research stressed investigation of procedures used in the classroom, and more recently, self evaluation of classroom interaction. Therefore, it is natural to consider evaluation of both the products of teaching and the procedures used to effect these outcomes in specific situations. Some districts are beginning to design systems to study both procedures and outcomes, believing that measurements of both are necessary to modify classroom instruction in any systematic and meaningful way.

An Analogy

The system for establishing a product-process relationship in a specific situation can be easily understood by means of an analogy. Suppose a person decided that he is 15 pounds overweight and would like to remedy the problem. He decides that the cause of his problem is poor eating habits. He sets a goal of losing 15 pounds in 15 weeks and a short-range goal of five pounds in five weeks. His method for losing weight will be to reduce his morning and evening meals and to eliminate snacks which have more than a small number of calories. An analysis of the problem might be as follows:

Problem:	overweight by 15 pounds
Short-range goal:	lose 5 pounds in 5 weeks
Long-range goal:	lose 15 pounds in 15 weeks
Subsidiary goal:	modify eating habits
Method:	breakfast: reduce by 1/3 to 1/2 lunch: no change dinner: reduce by 1/3 to 1/2 snacks: raw vegetables or fruit, diet drinks
Control:	Weigh weekly and record on chart. If behind schedule or if no loss in three consecutive weeks, modify method by either reducing intake or increasing exercise.

This person now has a way to determine whether a particular method will produce certain results--for him, in his situation.

If results are not as planned, he must raise certain questions: (a) were the goals reasonable or did he try to lose too much too fast? (b) were the procedures implemented as planned? (Or did he sneak some extra snacks and fail to cut down at his evening meals?)

If the goals still seem reasonable and if the procedures were properly implemented, then on the basis of the relationship between the process and the outcomes he is forced to conclude that the procedure did not work--for him, in his situation. Note that he does not generalize the value of his method for other people; his conclusion, based on the data collected regarding a product-process relationship, applies only to his own case. He can now take appropriate action based on a predetermined strategy for his particular situation.

⇒ CONCLUSION

Analysis of product-process relationship allows conclusions to be reached regarding the effectiveness of procedures in specific situations. (viewpoint: research staff)

Flow of Activities

Figure 5.8 shows a generalized network for personnel evaluation of the product-process relationship in a specific school situation. Steps 4 - 7 (results) are probably the only steps which need any elaboration.

Step 6 indicates that the results of the action taken are examined in terms of both product and process. This is important since often one of the results is ignored. The product is measured following the action taken (Step 4) but Step 5 indicates that the process is observed concurrently with the action taken.

⇒ CONCLUSION

Output and procedural goals are more likely to be understood and accomplished when they are developed cooperatively by the teacher and principal (or supervisor) and are written in specific terms. (viewpoint: research staff)

It hardly seems necessary to emphasize that, in the field of education, measurement of both product and process requires considerable development of measurement procedures and record keeping systems.

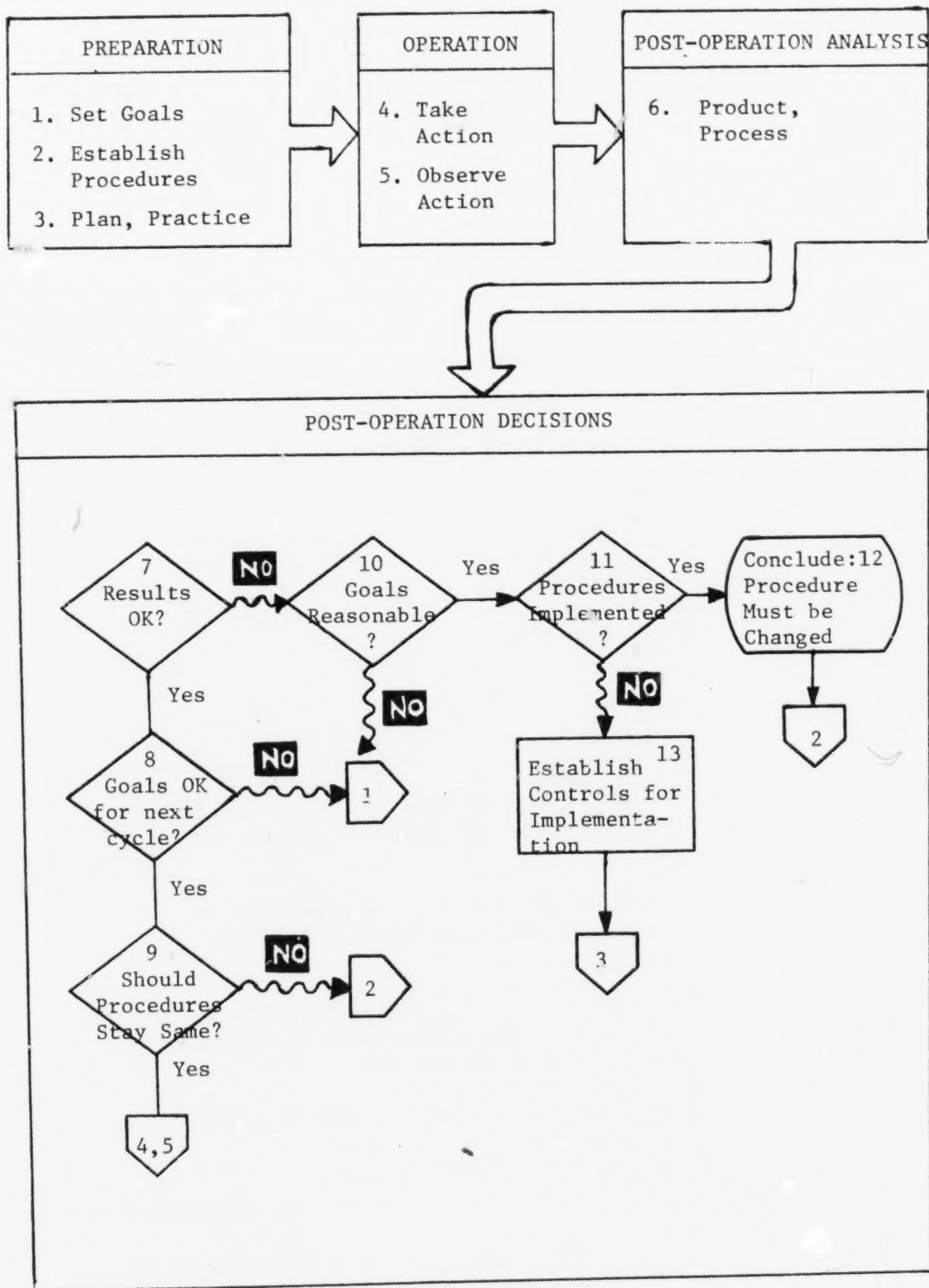


Figure 5.8. Personnel Evaluation: Product-Process Network.

Sources of Difficulty

At Step 7, the question of whether the results are satisfactory is asked; e.g., in the case of our overweight dieter, this is analogous to asking whether the desired amount of weight has been lost. Note that three possible sources of difficulty can be identified if the goals have not been met:

- the goals themselves
- the procedures, and/or
- their implementation.

If a combination of these items is causing the problem, a solution will be difficult unless possible causes are eliminated by systematically changing one of the items and recycling through the process.

Additional Features

Two additional features of the network are important. First, the conclusions are based on data collected in a specific situation; there is no attempt or need to generalize to another situation. Second, the duration of the cycle can be short, and a short cycle helps to correct problems quickly.

⇒ CONCLUSION

A personnel evaluation system for analyzing the product-process relationship allows one to:

- *determine whether a particular teaching method produces results in a specific situation*
- *determine whether poor results are due to inappropriate goals, poor implementation, and/or an ineffective procedure*
- *recycle events quickly to remedy problems.*

(viewpoint: research staff)

Management of Information

Significance An analysis of selection and evaluation of teachers indicates that both require the making of many decisions: selection requires choices among applicants and a determination of when to make offers; evaluation requires that actions be taken to improve supervision and in-service training, to modify assignments, and to change selection procedures. In order to make these important decisions, it is necessary to manage information efficiently. The management of information includes:

- acquisition
- processing (i.e., storage, consolidation, retrieval, display)
- analysis and interpretation.

⇒ CONCLUSION

*The quality of teacher selection and evaluation decisions depends on the way in which information used in the decision process is managed.
(viewpoint: research staff)*

Purpose The purpose of examining the management of information, then, is to determine whether established procedures facilitate the making of decisions in an efficient manner. Three outcomes are desirable:

- good decisions
- quick decisions
- economy.

Because of differences in size of operation and availability of funds and personnel, various ways of managing

information have been developed and found acceptable for particular situations.

Problem
Areas:
Selection

However, certain problems are inherent in managing information in the selection and evaluation of teachers, and should be considered before modifying procedures. For example, in examining the selection process, the following are often major problem areas:

Acquisition of information. At least two trouble spots may occur in the acquisition of information.

First, there is the problem of reliability, and this pertains to most of the information acquired. Since a considerable portion of the information is acquired through self-report devices (such as application forms and placement office forms), recommendations, and interviews, the concern for reliability is well founded. The most common procedures used to increase reliability of information are:

- cross-checking information from written documents for discrepancies
- asking references to respond to specific questions and comparing information from several references
- making telephone calls to references to probe and to verify information
- training interviewers to acquire specific information.

Second, there is the problem of obtaining too much information. This may seem innocent enough. However, when combined with other problem areas, e.g., display of the information, it can function as an information overload and affect the effectiveness of decisions. (Bolton, 1969, p. 340)

⇒ SUGGESTION

Only information which will be used in the teacher selection decision should be included on application forms or placement office credentials. Any information, which may be useful once a person is employed, should be acquired after employment. (viewpoint: research staff)

Consolidation of information. When information is acquired from a variety of sources, e.g., letters of recommendation, the interview, evidence of extraclass activities, it sometimes is difficult to manage all of the bits of information. Consequently, it is beneficial to consolidate some of the information in order to deal with it effectively.

For example, perhaps an applicant has had multiple experiences in working with small children (information obtained from application form); has a recommendation from a student teaching supervisor which indicates that children seek him out when they have difficulties and that he shows consideration for their problems; and indicated in an interview that his primary motivation for teaching is to help all children to develop and solve problems which they face—whether the problems be personal or academic. These three bits of information may be related and best handled by combining them into a measure of the person's consideration of children, or an empathy factor. Where possible, one should look for ways to consolidate information in such a manner that it can be related to the selection decision.

Display of information. When information to be retyped by a person making a selection decision is displayed in a disorganized fashion on multiple written documents, its significance may be difficult to perceive. Therefore, it is recommended that local districts develop single summary documents which display information considered important to the selection decision. Since the importance of information acquired from various sources will differ from district to district, it will be necessary for each district to develop its own strategy for transfer of information to a summary document; however, when the summary document has been devised, more discriminating and reliable decisions are likely to result.

Retrieval of information. Retrieval of information acquired regarding applicants is most important when specialized skills are being sought. For example, suppose that there are three vacancies in a large high school English department. Suppose further that it would be beneficial if at least one of the three new teachers has some background in speech and the dramatic arts. If there are a large number of applicants, the retrieval of information regarding course work and extraclass activities pertinent to speech and drama may become rather complex. Unless such problems are planned for, the system which is designed will not reduce the time lag or cost in retrieving information.

Problem
Spots:
Evaluation

In managing information regarding the evaluation of teachers, the following are major problem spots which should be examined.

Acquisition of information. The problem here is similar to that faced in selecting teachers, in that one is concerned with reliability of the information. Whether collecting information regarding an outcome such as the learning of pupils (a product) or the behavior of a teacher (a process), reliability is a formidable problem which is recognized by both practitioner and research personnel. Reliability can be increased by:

- specifying precisely the information that is needed
- using professional assistance in designing ways to acquire the information (or to design measuring devices)
- training personnel to use well-developed observation procedures.

Interpretation of information. Regardless of how reliably information is acquired, if it is misinterpreted it has been mismanaged. Interpretation has to do with the meaning attached to information, and meaning of information regarding the evaluation of teachers is generally determined by comparing relative amounts of behaviors, products, or activities.

For example, if Flanders' Interaction Analysis technique is used to measure or describe verbal behavior in the classroom, the first action of the observer is to record the verbal behaviors in terms of categories. The sequence

of behaviors is then plotted on a 10x10 grid which helps to cluster those behaviors which were the same; this is an analysis phase.

When one tallies the frequencies of behaviors and makes comparisons among categories, or compares the percentage of the time spent in teacher talk with the percentage of time spent in student talk, he is then interpreting the information. The point to be made here is that interpretation is the attachment of meaning to information following reliable acquisition (or measurement) and analysis of the information.

⇒ CONCLUSION

Where the information to be used for evaluation of teachers has been unreliably acquired or inadequately analyzed, it is to be expected that conclusions reached in the interpretation will be faulty. (viewpoint: research staff)

It seems relatively clear that proper interpretation of information will be facilitated by:

- reliable acquisition or measurement of events, products, and behavior
- analysis which clusters information into categories which are considered to be important
- a display of data which allows comparisons to be made easily
- comparison of views by the teacher and evaluator to determine how the context affects the meaning of the information.

Transmission of information. The manner in which information on evaluation is transmitted to teachers, to central office administration, and to boards of education can have a tremendous impact on how teachers react to the total evaluation process.

⇒ CONCLUSION

Where real consideration is shown for teachers and where they are presented information which is helpful to them, there is evidence that they welcome the evaluation process. (research: Rose)

However, teachers tend to respond negatively to

- fault finding without suggestions for remedy
- categorizations (good, average, ...) which provide little diagnostic assistance
- generalities which appear to have little factual basis
- reports made in secrecy
- reports made without clear contributions to organizational goals.

Retrieval of information. The problems involved in the retrieval of information acquired in the evaluation of teachers are primarily related to:

- long-range planning and determination of teacher needs
- special assignments to teachers
- promotions
- design of inservice training programs.

Where information regarding teachers is not stored in such a way that it can be readily retrieved, any tasks involving these functions may encounter delays, costs for re-acquisition, and lowered morale on the part of administration of teachers.

⇒ CONCLUSION

Where possible, the design of systems for managing information acquired in the selection of teachers should anticipate the many needs for such information and design an adequate way to store and retrieve the information to serve those needs. (viewpoint: research staff)

Recommendations

As officials in school systems become involved in designing ways to manage information for the selection and evaluation of teachers, the following recommendations should be considered:

1. Design the system for managing information in terms of:

- purposes to be served
- availability of funds, equipment, personnel
- magnitude of information to be handled.

It seems rather obvious that a small school district would have different funds, purposes, and amount of information to be processed than would a large district, and such factors will partially determine the type of system designed.

2. Plan a comprehensive system for managing information, and install it in phases if necessary. For example, it may be that a district has initial needs for biographical information on the teachers in the system, anticipates a need for evaluation data at a later point for long-range planning, and eventually will desire rather comprehensive information on applicants for new positions. If the system is designed with the total needs in mind, the total implementation may be shorter than if the system is periodically disrupted because of inadequate initial planning.

3. Consider incorporating the following in a system:

- forms and written records
- visible card systems

- types of folders to use
- manual card sort equipment (which uses holes around the outside of cards and metal rods, or a light source which performs the same function as the rods)
- data-processing cards, tapes, computer
- technical help
- clerical help

Summary

Summarized in this chapter are six major trends or ideas:

1. Examination, by a systems analysis approach, of the functional relationships among selection, evaluation, and supervision of teachers prevents isolation of any one function.
2. The current complex models of selection and evaluation of teachers, incorporating criteria that are multiple, dynamic, and specific to the situation are more realistic and useful than prior models.
3. "Management by objectives" can clarify organizational goals and show how these goals can be subdivided for action by work units and individuals. Accountability is facilitated by these procedures.
4. External evaluation can stimulate self evaluation, which leads to more continual diagnosis of individual behavior.
5. Concurrent analysis of the results of product and process in a specific situation can be used to obtain feedback for correction of individual problems.
6. The manner in which information is managed, i.e., the information acquisition, data processing, and analysis and interpretation will affect the quality of decisions made in the selection and evaluation of teachers.

Obviously, these general trends or ideas are inter-related; incorporation of all six in a personnel system is not only possible but desirable.

BIBLIOGRAPHY

- Albright, Lewis E., J. R. Glennon, and Wallace J. Smith. The Use of Psychological Tests in Industry. Cleveland: Howard Allen, Inc., 1963.
- Amidon, Edmund J., and John B. Hough (eds.). Interaction Analysis: Theory, Research and Application. Reading, Massachusetts: Addison-Wesley Publishing Co., 1967.
- Anthony, Bobbie M. "A New Approach to the Merit Rating of Teachers," Administrator's Handbook, The University of Chicago, 17, September, 1968.
- Barr, A. S. "Teaching Efficiency," Encyclopedia of Educational Research, ed. Robert L. Ebel. New York: The MacMillan Co., 1941.
- Bass, Bernard M. "The Leaderless Group Discussion," Psychological Bulletin, 51: 465-492, September, 1954.
- _____. "Further Evidence on the Dynamic Character of Criteria," Personnel Psychology, 15: 93-97, Spring, 1962.
- Bellows, Roger M., and M. Frances Estep. Employment Psychology: The Interview. New York: Rinehart and Company, Inc., 1954 and 2nd printing, 1957.
- Birnbaum, Martin J. "Information Collection Procedures," A Strategy for Evaluation Design, ed. C. F. Paulson, Jr. Monmouth, Oregon: Teaching Research, Oregon State System of Higher Education, Section III, 1970.
- Bolster, B. I., and B. M. Springbett. "The Reaction of Interviewers to Favorable and Unfavorable Information," Journal of Applied Psychology, 45: 98-103, February, 1961.
- Bolton, Dale L. "Tomorrow's Staff at Your Fingertips," Educational Executives' Overview, 3: 55, August, 1962.
- _____. "The I. A. I. Chart for Recruiting Instructional Personnel," Educational Executives' Overview, 4:28-29, August, 1963.
- _____. Variables Affecting Decision Making in the Selection of Teachers. Cooperative Research Project No. 6-1349. Seattle: University of Washington, August, 1968.
- _____. "The Effect of Various Information Formats on Teacher Selection Decisions," American Educational Research Journal, 6:329-247, May, 1969.

- Boyd, Robert D., and M. Vere DeVault. "The Observation and Recording of Behavior," Review of Educational Research, 36:529-551, December, 1966.
- Bozarth, Henry C. "A Study of the Validity of Letters of Recommendation in Screening Applicants for Foundations in Educational Administration at the University of Texas." Unpublished Master's Thesis, University of Texas, 1956.
- Brogden, H. E. and E. K. Taylor. "The Theory and Classification of Criterion Bias," Educational and Psychological Measurement, 10:159-186, Summer, 1950.
- Brown, Clement R., Jr., M. D. "Patient Care and Continuing Medical Education: Diagnosis Before Therapy." Paper presented at the Conference Workshop on Regional Medical Programs, January, 1968, Washington, D. C.
- Buros, Oscar Kristen (ed.). The Sixth Mental Measurements Yearbook. Highland Park, New Jersey: Gryphon Press, 1965.
- Bush, R. N. and D. W. Allen. "Micro-Teaching." Paper presented at the Santa Barbara Conference on Teacher Education of the Ford Foundation, 1964, Santa Barbara, California.
- Campbell, Richard J., and Douglas Bray. "Assessment Centers: An Aid in Management Selection," Personnel Administration, 30:6-13, March-April, 1967.
- Chruden, Herbert J., and Arthur W. Sherman, Jr. Readings in Personnel Management. Cincinnati: South-Western Publishing Company, 1961.
- Crissy, W. J. E. "The Employment Interview Research Areas, Methods and Results," Personnel Psychology, 5:73-85, Summer, 1952.
- Cronbach, Lee J. Essentials of Psychological Testing. New York: Harper Brothers, Publishers, 1960.
- Cronbach, Lee J., and Goldine C. Gleser. Psychological Tests and Personnel Decisions. Urbana: University of Illinois Press, 1965.
- DeNelsky, Garland Y., and Michael G. McKee. "Prediction of Job Performance from Assessment Reports: Use of a Modified Q-Sort Technique to Expand Predictor and Criterion Variants," Journal of Applied Psychology, 53:439-445, December, 1969.
- Drucker, Peter Ferdinand. The Practice of Management. 1st ed. New York: Harper, 1954.
- Dunnette, M. D. "A Modified Model for Test Validation and Selection Research," Journal of Applied Psychology, 47:317-323, October, 1963.
- Eastmond, Jefferson N. The Teacher and the School Administration. Boston: Houghton Mifflin Company, 1959.

- Ebel, R. L. "Must All Tests Be Valid?" American Psychologist, 16: 640-647, October, 1961.
- Edgerton, H. A., M. R. Feinberg, and K. F. Thompson. "Prediction of the 'Human Relations' Effectiveness of Industrial Supervisors," Personnel Psychology, 10:421-431, Winter, 1957.
- Educational Research Service. Evaluating Teaching Performance, American Association of School Administrators and Research Division, NEA, Washington, D.C., No. 3, 1969.
- Ellena, William J., Margaret Stevenson, and Harold V. Webb. Who's A Good Teacher? Washington, D.C.: American Association of School Administrators Department of Classroom Teachers of the NEA National School Boards Association, 1961.
- Elsbree, Willard S., E. Edmund Reutter, Jr., et al. Principles of Staff Personnel Administration in Public Schools. New York: Bureau of Publications, Teachers College, Columbia University, 1959.
- England, George W., and Donald G. Paterson. "Selection and Placement--The Past Ten Years," Employment Relations Research, eds. Herbert G. Heneman, et al. New York: Harper Brothers, 1960.
- "Evaluation of Teaching Competence," NEA Research Bulletin, 47:67-75, October, 1969.
- Fear, Richard A. The Evaluation Interview. New York: McGraw-Hill Book Company, 1958.
- Fishman, Joshua A. "Cross-Cultural Perspective on the Evaluation of Guided Behavioral Change," The Evaluation of Teaching, Pi Lambda Theta, 1967.
- Fitzgerald, Paul. "Recruitment of Teachers--A Need for Reevaluation," Personnel Journal, 49:312-314, April, 1970.
- Flanders, Ned A. "Intent, Action and Feedback: A Preparation for Teaching," The Journal of Teacher Education, 13:251-260, September, 1963.
- _____. Analyzing Teaching Behavior. Reading, Massachusetts: Addison-Wesley Publishing Company, 1970.
- _____, and Anita Simon. "Teacher Effectiveness," Encyclopedia of Educational Research, 4th ed., Robert L. Ebel, ed. New York: The MacMillan Company, 1969.
- Forehand, G. A., and B. Von Haller Gilmer. "Environmental Variation in Studies of Organizational Behavior," Psychological Bulletin, 62: 361-382, December, 1964.

- French, John R. P., Jr., Emanuel Kay, and Herbert H. Meyer. "Participation and the Appraisal System," Human Relations, 19: 3-20, February, 1966.
- French, Wendell L. "Psychological Testing: Some Problems and Solutions," Personnel Administration, 29:19-25, March-April, 1966.
- Gage, N.L. "A Method for 'Improving' Teacher Behavior," Journal of Teacher Education, 14:261-266, September, 1963.
- _____. (ed.) "Paradigms for Research on Teaching," Handbook of Research on Teaching. Chicago: Rand McNally and Company, 1963.
- _____. "An Analytical Approach to Research on Instructional Methods," Phi Delta Kappan, 49:601-606, June, 1968.
- Ghiselli, E. E. "Dimensional Problems of Criteria," Journal of Applied Psychology, 40:1-4, February, 1956.
- _____ and Clarence W. Brown. Personnel and Industrial Psychology. 2nd ed. New York: McGraw Hill Book Company, 1955.
- Giedt, Harold F. "Comparison of Visual, Content, and Auditory Cues in Interviewing," Journal of Consulting Psychology, 19:407-416, December, 1955.
- Gilbert, Harry B., and others. Teacher Selection Policies and Procedures in Large Public School Systems in the United States. Cooperative Research Project No. S-344. Bureau of Research, United States Department of Health, Education and Welfare, Office of Education. Washington, D. C.: Government Printing Office, 1966.
- Gruenfeld, L. W., and Peter Weissenberg. "Supervisory Characteristics and Attitudes toward Performance Appraisals," Personnel Psychology, 19:143-151, Summer, 1966.
- Guetzkow, Harold, and Garlie A. Forehand. "A Research Strategy for Partial Knowledge Useful in the Selection of Executives," Research Needs in Executive Selection, Renato Tagiuri, ed. Boston: Harvard University, 1961.
- Guion, Robert M. "Criterion Measurement and Personnel Judgments," Personnel Psychology, 14:141-149, Summer, 1961.
- _____ and Richard Bottier. "Validity of Personality Measures in Personnel Selection," Personnel Psychology, 18:135-164, Summer, 1965.
- Guilford, J. P. Psychometric Methods, New York: McGraw Hill Book Company, 1954.
- Halpern, Howard M. "Empathy, Similarity and Self-Satisfaction," Journal of Consulting Psychology, 19:449-454, December, 1955.
- Hammond, K. R., C. J. Hursch, and F. J. Todd. "Analyzing the Components of Clinical Inference," Psychological Review, 71:438-456, November, 1964.

- Hansen, J. W. Supervision and Personnel Administration. New York: American Institute of Banking, 1960.
- Heald, James E., and Samuel A. Moore, II. The Teacher and Administrative Relationships in School Systems. New York: The MacMillan Company, 1968.
- Heilig, Harland E. The Application Blank as a Predictive Instrument for the Selection of Part-time Teachers in an Evening College. Cooperative Research Project No. 64-1228, Bureau of Research, Department of Health, Education and Welfare, Office of Education, University Microfilms No. ED 014 683.
- Hickey, Michael E. Pre-Decisional Information Search in Teacher Selection, Final Report Project No. 9-1-037, United States Department of Health, Education and Welfare, Office of Education, Bureau of Research. Washington: Government Printing Office.
- Hill, William Morris. "The Effects on Verbal Teaching Behavior of Learning Interaction Analysis as an In-Service Education Activity." Doctoral thesis, Ohio State University, 1966. Dissertation Abstracts, 27A:2084.
- Hinrichs, J. R. "Technical Selection: How to Improve Your Batting Average," Personnel, 37:56-60, March-April, 1960.
- Horst, Paul. "The Logic of Personnel Selection and Classification," Psychological Principles in System Development, Robert M. Gagné, ed. New York: Holt, Rinehart and Winston, 1962.
- Hough, J. B., and R. Ober. "The Effects of Training in Interaction Analysis on the Verbal Behavior of Preservice Teachers." Paper presented at the annual meeting of The American Educational Research Association, 1966, Chicago, Illinois.
- Howsam, Robert B. "Teacher Evaluation: Facts and Folklore," The National Elementary Principal, 43:7-18, November, 1963.
- Hyman, Herbert H. Interviewing in Social Research. Chicago: University of Chicago Press, 1954.
- Jensen, Paul H. A Study of Self-Evaluation Applied to In-Service Education. Bureau of Research, Department of Health, Education and Welfare, Office of Education, Cooperative Research Project No. 5-1121. Monmouth, Oregon: Teaching Research, Oregon State System of Higher Education, 1968.
- Kerlinger, Fred N. Foundations of Behavioral Research: Educational and Psychological Inquiry. New York: Holt, Rinehart and Winston, 1964.
- Kliebard, Herbert M. "The Observation of Classroom Behavior: Some Recent Research." The Way Teaching Is, ASCD and the NEA Report on the Seminar on Teaching, 1966.

- Lawler, Edward E., III. "The Multitrait-Multirater Approach to Measuring Managerial Job Performance," Journal of Applied Psychology, 51:369-381, October, 1967.
- Link, Frances R. "Merit Rating: Have the Issues Changed?" Supervision: Emerging Profession. Washington, D.C.: Association for Supervision and Curriculum Development, 1969.
- Lopez, Felix M. Personnel Interviewing: Theory and Practice. New York: McGraw-Hill Book Company, 1965.
- Lyons, Tom. "Instrumentation," A Strategy for Evaluation Design, C. F. Paulson, Jr. (ed.). Monmouth: Oregon: Teaching Research, Oregon State System for Higher Education, 1970.
- Maccobby, E. E., and N. Maccobby. "The Interview: A Tool of Social Science," Handbook of Social Psychology, G. Lindzey (ed.). Reading: Addison-Wesley Publishing Company, Inc., 1954.
- McMurry, Robert N. "Validating the Patterned Interview," Personnel, 23:263-272, January, 1947.
- McNeil, J. D. "Concomitants of Using Behavioral Objectives in the Assessment of Teacher Effectiveness," Journal of Experimental Education, 36:69-74, Fall, 1967.
- Magee, Richard H. "The Employment Interview--Techniques of Questioning," Personnel Journal, 41:241-245, May, 1962.
- Mahoney, Thomas A., and George W. England. "Efficiency and Accuracy of Employee Selection Decision Rules," Personnel Psychology, 18:361-377, Winter, 1965.
- _____, and others. "Identification and Prediction of Managerial Effectiveness," Personnel Administration, 26:12-22, July-August, 1963.
- Malone, C. F. "Design for Productive Classroom Evaluation," Clearing House, 42:348-354, February, 1968.
- Maloney, P. W. Management's Talent Search. New York: American Management Association, 1961.
- Mandell, Milton M. The Employment Interview, Research Study 47. New York: American Management Association, 1961.
- _____, The Selection Process. New York: American Management Association, 1964.
- Mascho, Beth V., and others. The Elementary Education Selection Research Project. ERIC No. ED 012 254. Muncie, Indiana: Ball State University, 1966.

- Medley, Donald M., and Russell A. Hill. "Dimensions of Classroom Behavior Measured by Two Systems of Interaction Analysis," Educational Leadership, 27:821-824, May, 1969.
- Medley, Donald M., and H. E. Mitzel. "Measuring Classroom Behavior by Systematic Observation," Handbook of Research on Teaching, N. L. Gage (ed.). Chicago: Rand McNally, Inc., 1963.
- Meehl, Paul E. Clinical Versus Statistical Prediction. Minneapolis: University of Minnesota Press, 1954.
- Merlino, Edward Stephen. "A Study of Teacher Behavior and Attitudes Based on the Results of Pupil Feedback." Master's thesis, University of Washington, 1965.
- Meyer, H. H., Emanuel Kay, and J. R. P. French, Jr. "Split Roles in Performance Appraisal," Harvard Business Review, 43:123-129, January-February, 1965.
- Meyer, H. H., and W. B. Walker. "A Study of Factors Relating to the Effectiveness of a Performance Appraisal Program," Personnel Psychology, 14:291-298, Autumn, 1961.
- Mitzel, H. E. "Teacher Effectiveness," Encyclopedia of Educational Research, C. W. Harris (ed.). New York: The MacMillan Company, 1960.
- _____. Criterion Problems in Validating Teacher Selection Policies and Procedures. Brooklyn, New York: New York City Board of Education, June, 1967.
- Moscowitz, Gertrude. "The Attitudes and Teaching Patterns of Cooperating Teachers and Student Teachers Trained in Interaction Analysis," Interaction Analysis: Theory, Research and Application, Edmund J. Amidon and John B. Hough (eds.). Reading, Massachusetts: Addison-Wesley Publishing Company, 1967.
- Moyer, N. A. "Non-Directive Employment Interviewing," Personnel, 24: 391-392, March, 1948.
- National Industrial Conference Board. Managing by--and with--Objectives. Studies in Personnel Policy No. 212. New York, 1968.
- Noland, Robert L., and J. J. Moylan. How to Conduct Better Performance Appraisal Interviews. Springdale, Connecticut: Motivation, Inc., 1967.
- Nunnally, Jum C. Psychometric Theory. New York: McGraw-Hill Book Company, 1967.
- Odiorne, George S. Management by Objectives. New York: Pitman Publishing Corporation, 1965.

- Office of Strategic Services Assessment Staff. Assessment of Men. New York: Rinehart and Company, Inc. 1948.
- Palmer, Dale Harlie. "Situational Variables Affecting Decision Making in the Selection of Teachers." Doctoral thesis, University of Washington, 1970.
- Parsons, Theodore W. "Guided Self-Analysis System for Professional Development Education Series." Berkeley, California: University of California, 1969.
- Paul, Janet S. "Observer Information of the Interaction of a Mother and a Single Child in the Home." Unpublished Master's thesis, Oregon State University, 1964.
- Peres, Sherwood H., and J. Robert Garcia. "Validity and Dimensions of Descriptive Adjectives Used in Reference Letters for Engineering Applicants," Personnel Psychology, 16:279-286, Autumn, 1962.
- Popham, W. James, and Lloyd S. Standlee. "Out-of-School Activities and Professional Performance of Teachers," Bulletin of the School of Education, Indiana University, 34:27-29, July, 1958.
- Poppleton, Pamela. "The Assessment of Teaching Practices: What Criteria Do We Use?" Education for Teaching, 75:59-64, Spring, 1968.
- Redefer, Frederick L. "Recruiting and Selecting Teachers," American School Board Journal, 145:7-8, August, 1962.
- Redfern, George B. How to Appraise Teaching Performance. Columbus, Ohio: School Management Institute, Inc., 1963.
- Richardson, Stephen A., et al. Interviewing: Its Forms and Functions. New York: Basic Books, Inc., 1965.
- Rogers, Carl. "Towards a Theory of Creativity," ETC: A Review of General Semantics, 11:249-260, Summer, 1954.
- Rose, Gale W. "The Effects of Administrative Evaluation," The National Elementary Principal, 43:50-56, November, 1963.
- Rosenshine, Barak. "Evaluation of Instruction," Review of Educational Research, 40:279-300, April, 1970.
- Ryans, David G. "Notes on the Criterion Problems in Research, with Special Reference to the Study of Teacher Characteristics," Journal of Genetic Psychology, 91:33-61, September, 1957.
- _____. "Assessment of Teacher Behavior and Instruction: Observation and Assessment of Teaching," Review of Educational Research, 33: 423, October, 1963.

Schalock, H. Del. "Issues in the Conceptualization and Measurement of Teaching Behavior." A paper presented at the American Educational Research Association Annual Conference, Chicago, 1967a.

_____. The Teaching Research System for the Description of Teacher Behavior in Context. Monmouth, Oregon: Oregon State System of Higher Education, 1967b.

_____. "Measurement," CORD: National Research, Evaluation, and Development Training Manual, 2nd ed., J. Crawford (ed.). Monmouth, Oregon: Teaching Research, Oregon State System of Higher Education, 1969.

_____, and James H. Beaird. Increasing Prediction of Teacher's Classroom Behavior through Use of Motion Picture Tests. Cooperative Research Report No. 5-0836. Monmouth, Oregon: Teaching Research, Oregon State System of Higher Education, July, 1968.

Scott, William E., Jr. "The Actuarial-Clinical Controversy in Managerial Selection," Business Horizons, 7:89-99, Winter, 1964.

Short, Robert Allen. "The Relationship of Teachers' Classroom Behavior to the Achievement of Junior High School Students and the Effect of Interaction Analysis Feedback on Teachers; Classroom Behavior." Doctoral thesis, University of Washington, 1968.

Simon, Anita, and Gil Boyer (eds.). Mirrors for Behavior: An Anthology of Classroom Observation Instruments, Vol. I-XIV. Philadelphia: Research for Better Schools, Inc., 1967-1970.

Smith, B. Othanel. "Teaching: Conditions of its Evaluation," The Evaluation of Teaching, Pi Lambda Theta. 1967.

Smith, E. R., and R. W. Tyler. "Appraising and Recording Student Progress," Adventure in American Education. Progressive Education Association, Commission on the Relation of Schools and Colleges, New York: Harper and Brother, Inc., 1942.

Soar, R.S. "New Developments in Effective Teaching," American Biology Teacher, 30:43-47, January, 1968.

Solem, Alan R. "Some Supervisory Problems in Appraisal Interviewing," Personnel Administration, 23:27-35, May-June, 1960.

Springbett, B.M. "Factors Affecting the Final Decision in the Employment Interview," Canadian Journal of Psychology, 12:13-22, March, 1958.

Stone, C. Harold, and William E. Kendall. Effective Personnel Selection Procedures, Englewood Cliffs, New Jersey, Prentice-Hall, Inc., 1956.

- Super, Donald E., and John O. Crites. Appraising Vocational Fitness. New York: Harper and Row, 1962.
- Sydiaha, Daniel. "Interviewer Consistency in the Use of Empathic Models in Personnel Selection," Journal of Applied Psychology, 46:344-349, October, 1962.
- Taft, Ronald. "The Ability to Judge People," Psychological Bulletin, 52:1-23, January, 1955.
- "Teacher Evaluative Procedures," Oregon Education, 41:16-17, 30, October, 1966.
- "Teacher Selection: How to Weed out the Duds," School Management, 8: 34-74, December, 1964.
- Thompson, Joann N. "Observer Information of Mother with Three Pre-School Children in Home." Unpublished Master's thesis, Oregon State University, 1963.
- Thoreson, Carl E. "Video in the College Classroom: An Exploratory Study," Personnel and Guidance Journal, 45:144-148, October, 1966.
- Thorndike, Robert L. Personnel Selection, Test and Measurement Techniques. New York: John Wiley and Sons, Inc., 1949.
- _____, and E. Hagen. Measurement and Evaluation in Psychology and Education. New York: John Wiley and Sons, Inc., 1962.
- Turner, R. L., and N. A. Fattu. "Skill in Teaching, A Reappraisal of the Concepts and Strategies in Teacher Effectiveness Research," Bulletin of the School of Education, Indiana University, 37, May, 1960.
- _____, and others. "Skill in Teaching, Assessed on the Criterion of Problem Solving: Three Studies," Bulletin of the School of Education, Indiana University, 39, January, 1963.
- U. S. Civil Service Commission. A Guide for Executive Selection. Personnel Methods Series, No. 13. Washington, D. C.: U. S. Government Printing Office, October, 1961.
- Ulrich, Lynn and Don Trumbo. "The Selection Interview Since 1949," Psychological Bulletin, 63:100-116, February, 1965.
- Wagner, R. "The Employment Interview: A Critical Summary," Personnel Psychology, 2:17-46, Spring, 1949.
- Ward, Lewis B. "Putting Executives to the Te-t," Harvard Business Review, 38:6-15, July-August, 1960.
- Ware, Claude T., Jr. "Individual and Situational Variables Affecting Human Performance," Human Factors, 6, December, 1964.

Webb, E. J., and others. Unobtrusive Measures: Nonreactive Research in the Social Services. Chicago: Rand McNally and Company, 1966.

Wilk, Roger E., and William H. Edson. "Predictions and Performance: An Experimental Study of Student Teachers," Journal of Teacher Education, 14:308-317, September, 1963.

Willing, Jules Z. "The Round-Table Interview--A Method of Selecting Trainees," Personnel, 39:26-32, March-April, 1962.

Younge, K.A. "The Value of the Interview: An Orientation and a Pilot Study," Journal of Applied Psychology, 40:25-31, February, 1956.

Appendix 1.1

Effect of "Halo Effect" on Correlations with Predictor Variables.

Suppose one had a group of 12 teachers whose I.Q.'s ranged from 100 to 140. Suppose further that he wanted to know whether this variable (intelligence as measured by the test which provided the I.Q. scores) predicted teaching success. If a measure of teaching success were available, it would be relatively simple to compute a correlation coefficient. Suppose it were decided to use the principal's judgment of teacher effectiveness, as measured on a five point scale ranging from poor (1) to excellent (5). Let us further suppose that this principal allowed a general "halo effect" to influence his judgment and cause him to rate all of the teachers "5". The data for this situation could be arranged in tabular form as shown below for use in the correlation formula provided below the table.

Table A1.1

Fictitious Data for Computing Correlations
between I.Q. and Teaching Success.

Teacher	I.Q. (X)	Success (Y)	XY		
1	100	5	500	or	5(100)
2	105	5	525	or	5(105)
3	110	5	550	or	5(110)
4	115	5	575	or	5(115)
5	120	5	600	or	5(120)
6	120	5	600	or	5(120)
7	125	5	625	or	5(125)
8	125	5	625	or	5(125)
9	130	5	650	or	5(130)
10	130	5	650	or	5(130)
11	135	5	675	or	5(135)
12	140	5	700	or	5(140)
n = 12	$\Sigma X = 1455$	$\Sigma Y = 60$	$\Sigma XY = 7275$		5(1455) or 5X

$$\text{Correlation coefficient, } r_{xy} = \frac{n\Sigma XY - \Sigma X \Sigma Y}{\sqrt{[n\Sigma X^2 - (\Sigma X)^2] [n\Sigma Y^2 - (\Sigma Y)^2]}}$$

Examine the numerator for the formula. Since $n\Sigma XY$ reduces to $5n\Sigma X$, and since $\Sigma X \Sigma Y$ reduces to $5n\Sigma X$ (since ΣY reduces to $5n$), the value of the numerator is $5n\Sigma X - 5n\Sigma X = 0$. Since the numerator of the formula is zero, the correlation coefficient is zero.

It will be noted that this occurred when the one measure was a constant of 5. Regardless of what that constant (k) was, the correlation would have been zero (since the numerator would then have become $kn\bar{X}$ minus $kn\bar{X}$). This means that any time either of the variables in a correlation coefficient approaches a constant, the correlation itself will approach zero. This explains the difficulty of obtaining significant correlations where errors of either halo effects or errors of central tendency occur.

Appendix 1.2

An Analysis of Authentic and Phony Communication as it May Relate to Open Teacher Personnel Files

What are the issues regarding open files and reports regarding teachers? Mostly they concern the authenticity of communications to teachers and about teachers. Suppose we consider two forms of communication, written and oral, and two degrees of authenticity, phony and authentic. (It is agreed that the dichotomy of the authenticity is forced and that authenticity is continuous, but the division into two parts serves the purpose of analysis and the conclusions are not distorted because of it.) Consider further that information could either be negative or positive (i.e., in an evaluative sense, it could either be bad or good).

The different categories of information to be communicated could be classified as in Table

Before examining the cells of Table A1.2, let us assume that the oral communication regarding the teacher's behavior is in direct face-to-face conversation between the teacher and the evaluator. Further, let us assume that the written communication is without the knowledge of the teacher, i.e., written reports are not open to the inspection of the teacher. All communication is from the evaluator.

Table A1.2

A Classification of Different Types of Information
to be Communicated to Teachers.

		Written Communication				
		<u>Phony</u>		<u>Authentic</u>		
		<u>neg.</u>	<u>pos.</u>	<u>neg.</u>	<u>pos.</u>	
Oral Communication	Phony	negative	1	2	5	6
		positive	3	4	7	8
	Authentic	negative	9	10	13	14
		positive	11	12	15	16

Let us now examine the cells of Table A1.2. For example, Cell 1 indicates that the oral communication to the teacher is phony and negative, while the written communication to the central office is

also phony and negative. What would the results of such communication most likely be? The phony and negative oral communication would most likely precipitate undesirable reactions on the part of the teacher, (since the information is phony, we could presume that the behavior is actually desirable) while the phony written communication would be unethical.

Table A1.3 presents an analysis of the likely results of various types of communication to the teacher and the central office.

Table A1.3

An Analysis of the Likely Results of Various Types
of Communication to Teachers

<u>Cell</u>	<u>Likely Results</u>	<u>Cell</u>	<u>Likely Results</u>
1	undesirable, unethical	9	non-existent
2	non-existent	10	illogical, self-destructive
3	non-existent	11	illogical, destroys teacher
4	evades issues	12	non-existent
5	non-existent	13	realistic
6	illogical, destroys teacher	14	non-existent
7	evades issues, dishonest	15	non-existent
8	non-existent	16	realistic, motivating

From the analysis in Table A1.3, it appears that the following conclusions can be made regarding evaluation information, open oral communication to the teacher, and closed written communication to the central office.

- a. When both the oral and written communication are positive, then the results are likely either:
 - to be realistic and motivating, or
 - to evade issues.
- b. When both communications are negative, then results are either:
 - realistic, or
 - unethical.
- c. When one communication is positive and another is negative, then results either:
 - are illogical,
 - are destructive to teachers,

- are self-destructive (to the evaluator),
- are dishonest, and/or
- evade issues.

The only two cells which offer promise for precipitating beneficial results are Cells 13 and 16, where both types of communication are authentic. Since the only types of communication with teachers or about teachers which are likely to precipitate beneficial results are those which are authentic in both written and oral forms, it seems reasonable to conclude that open personnel files (containing authentic information) would not be harmful to anyone concerned. Since open files do tend to reduce rumor and anxiety among teachers, it should be recommended that all written formal evaluations of teachers be open to examination by teachers.

APPENDIX 2.1

Teacher Selection and Evaluation
Questionnaire

Dear Respondent:

This questionnaire has been designed so that you might respond to it quickly and so that we might analyze the results and return them to you. We are particularly interested in recent practices or procedures which you have found useful. Also, we are interested in any research that you have conducted on your selection and evaluation procedures.

Since our sample is relatively small and our project is on a tight schedule, it is important to us that the questions be completed accurately and promptly. We will appreciate it if you return this by February 5 in the enclosed self-addressed envelope.

Thank you for your consideration and time in completing this questionnaire.

Sincerely,

Dale L. Bolton
Principal Investigator

Name and Title of Respondent _____

School System _____ Name of Super-
intendent _____

City _____ State _____ Zip Code _____

Check the enrollment group category of the school system:

100,000 or more	___ 1	16,000 to 24,999	___ 4
50,000 to 99,999	___ 2	10,000 to 15,999	___ 5
25,000 to 49,000	___ 3	less than 10,000	___ 6

Please return this questionnaire to:
Selection and Evaluation of Teachers 11-4500
309 Miller Hall, College of Education
University of Washington
Seattle, Washington 98105

SECTION I: SELECTION OF TEACHERS

2

INSTRUCTIONS FOR SECTION I:

- A. Please indicate all individuals who are normally involved with a particular activity by marking one or more of the circles per line.
- B. Please relate the positions and titles on the right to equivalent ones in your school system. For example, what we have labeled "supervisor" may have such titles as director, helping teacher, coordinator, etc. in your district.

IA. DEVELOPMENT OF CRITERIA FOR SELECTION OF TEACHERS

1. develops complete job description(s)
2. identifies teacher behaviors to be sought . .
3. determines information used to predict future teacher behaviors
4. other _____ . .

IB. RECRUITING

5. determines employment needs
6. describes the vacancies
7. sends notification of vacancies
8. develops recruitment brochure or other materials
9. plans recruitment program
10. conducts recruitment program.
11. makes contact with teacher placement offices and other employment agencies
12. makes informal personal contact with potential candidates.
13. other _____ . .

IC. INFORMATION REGARDING APPLICANTS

14. acquires information from application, tests, credentials, other documents.
15. conducts interview(s)
16. processes and analyzes information.
17. other _____ . .

	Superintendent	Asst. Supt.	Pers. Director	Supervisor	Principal	Asst. Principal	Dept. Head	Teacher(s)	Parent(s)	Sch. Board	Mbrs. Students	NOT DONE	Other (Specify)
1. develops complete job description(s)	0	0	0	0	0	0	0	0	0	0	0	0	
2. identifies teacher behaviors to be sought . .	0	0	0	0	0	0	0	0	0	0	0	0	
3. determines information used to predict future teacher behaviors	0	0	0	0	0	0	0	0	0	0	0	0	
4. other _____ . .	0	0	0	0	0	0	0	0	0	0	0	0	
5. determines employment needs	0	0	0	0	0	0	0	0	0	0	0	0	
6. describes the vacancies	0	0	0	0	0	0	0	0	0	0	0	0	
7. sends notification of vacancies	0	0	0	0	0	0	0	0	0	0	0	0	
8. develops recruitment brochure or other materials	0	0	0	0	0	0	0	0	0	0	0	0	
9. plans recruitment program	0	0	0	0	0	0	0	0	0	0	0	0	
10. conducts recruitment program.	0	0	0	0	0	0	0	0	0	0	0	0	
11. makes contact with teacher placement offices and other employment agencies	0	0	0	0	0	0	0	0	0	0	0	0	
12. makes informal personal contact with potential candidates.	0	0	0	0	0	0	0	0	0	0	0	0	
13. other _____ . .	0	0	0	0	0	0	0	0	0	0	0	0	
14. acquires information from application, tests, credentials, other documents.	0	0	0	0	0	0	0	0	0	0	0	0	
15. conducts interview(s)	0	0	0	0	0	0	0	0	0	0	0	0	
16. processes and analyzes information.	0	0	0	0	0	0	0	0	0	0	0	0	
17. other _____ . .	0	0	0	0	0	0	0	0	0	0	0	0	

Section I: Selection of Teachers (continued)

3

	Superintendent	Asst. Supt.	Pers. Director	Supervisor	Principal	Asst. Principal	Dept. Head	Teacher(s)	Parent(s)	Sch. Board	Students	Other (Specify)
ID. STRATEGIES AND DECISIONS												
18. determines relative importance of each item of information collected	0	0	0	0	0	0	0	0	0	0	0	
19. decides to collect more information	0	0	0	0	0	0	0	0	0	0	0	
20. assigns applicants overall rating	0	0	0	0	0	0	0	0	0	0	0	
21. determines rank ordering of applicant pool (or a portion of it)	0	0	0	0	0	0	0	0	0	0	0	
22. decides to reject applicant(s).	0	0	0	0	0	0	0	0	0	0	0	
23. decides to delay decision re employment	0	0	0	0	0	0	0	0	0	0	0	
24. decides to offer contract	0	0	0	0	0	0	0	0	0	0	0	
25. officially decides to employ.	0	0	0	0	0	0	0	0	0	0	0	
26. sends contract	0	0	0	0	0	0	0	0	0	0	0	
27. sends notification of vacancies filled to all applicants.	0	0	0	0	0	0	0	0	0	0	0	
28. sends notification of vacancies filled to employment agencies	0	0	0	0	0	0	0	0	0	0	0	
29. other _____	0	0	0	0	0	0	0	0	0	0	0	
IE. CONTROLS												
30. checks reliability and validity of information collected	0	0	0	0	0	0	0	0	0	0	0	
31. makes analysis of sources of potential errors in the selection process.	0	0	0	0	0	0	0	0	0	0	0	
32. conducts formal training sessions for people involved in selection of teachers	0	0	0	0	0	0	0	0	0	0	0	
33. other _____	0	0	0	0	0	0	0	0	0	0	0	
IF. OTHER ACTIVITY (specify)												
34. _____	0	0	0	0	0	0	0	0	0	0	0	

4

35. With relation to the selection of teachers, please describe any new procedures that you have adopted during the last five years. (Please enclose any materials that are used with these procedures.)

36. Please describe any revisions you anticipate in your procedures for selection of teachers. (Enclose any pertinent materials that assist in your description.)

37. With relation to the selection of teachers, please describe the practices you use that are most important, effective, or useful. (Enclose any pertinent materials that assist in your description.)

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Section II: Evaluation of Teachers (continued)

6

	Superintendent	Asst. Supt.	Pers. Director	Supervisor	Principal	Asst. Principal	Dept. Head	Teacher(s)	Parent(s)	Sch. Board	Students	NOT DONE	Other (Specify)
IID. USE OF INFORMATION													
53. provides written feedback to teachers	0	0	0	0	0	0	0	0	0	0	0	0	
54. provides oral feedback to teachers	0	0	0	0	0	0	0	0	0	0	0	0	
55. provides information to others	0	0	0	0	0	0	0	0	0	0	0	0	
56. maintains record of information or of information summary	0	0	0	0	0	0	0	0	0	0	0	0	
57. other _____ . .	0	0	0	0	0	0	0	0	0	0	0	0	
IIE. DECISIONS BASED ON EVALUATION													
58. makes decisions regarding changes which should be made to improve teacher performance . . .	0	0	0	0	0	0	0	0	0	0	0	0	
59. makes decisions regarding changes of assignment	0	0	0	0	0	0	0	0	0	0	0	0	
60. makes recommendations regarding retention . .	0	0	0	0	0	0	0	0	0	0	0	0	
61. makes recommendations regarding promotions .	0	0	0	0	0	0	0	0	0	0	0	0	
62. makes recommendations regarding release . . .	0	0	0	0	0	0	0	0	0	0	0	0	
63. makes recommendations for exceptional salary adjustments	0	0	0	0	0	0	0	0	0	0	0	0	
64. other _____ . .	0	0	0	0	0	0	0	0	0	0	0	0	
IIF. OTHER ACTIVITY (specify)													
65. _____ . .	0	0	0	0	0	0	0	0	0	0	0	0	
66. With relation to the <u>evaluation</u> of teachers, please describe any new procedures that you <u>have adopted</u> during the last five years. Please enclose any materials that are used with these procedures.)													

(Please attach additional comments if this space is not sufficient)

Section II: Evaluation of Teachers (continued)

OTHER ACTIVITY, con't.

67. Please describe any revisions which you anticipate in your procedures for evaluation of teachers. (Please enclose any pertinent materials that assist in your description.)

68. With relation to the evaluation of teachers, please describe what practices you use that are most important, effective, or useful. (Please enclose any pertinent materials that assist in your description.)

SECTION III: ADDITIONAL INFORMATION

8

1. Have you recently completed (or are you presently engaged in) a research or pilot project concerned with either selection or evaluation of teachers?

☐ Yes If yes, please describe and/or enclose the materials
pertinent to the project.

☐ No

2. Additional comments?

(Please attach additional comments if this space is not sufficient)

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APPENDIX 2.2

Teacher Selection and Evaluation
Questionnaire

Dear Respondent:

This questionnaire has been designed so that you might respond to it quickly and so that we might analyze the results and return them to you. We are particularly interested in current procedures which you have found useful in the selection and evaluation of personnel who hold at least a Bachelor of Arts degree. Also, we are interested in any research that you have conducted on your selection and evaluation procedures.

Since our sample is relatively small and our project is on a tight schedule, it is important to us that the questions be completed accurately and promptly. We will appreciate it if you return this by February 5 in the enclosed self-addressed envelope.

Thank you for your consideration and time in completing this questionnaire.

Sincerely,

Dale L. Bolton
Principal Investigator

Name and Title of Respondent _____

Organization Name _____

Address _____

City _____ State _____ Zip Code _____

Check the number of employees in your organization:

100,000 or more	___ 1	10,000 to 15,999	___ 5
50,000 to 99,999	___ 2	5,000 to 9,999	___ 6
25,000 to 49,999	___ 3	2,500 to 4,999	___ 7
16,000 to 24,999	___ 4	less than 2,500	___ 8

Please return this questionnaire to:
Selection and Evaluation of Teachers 11-4500
309 Miller Hall, College of Education
University of Washington
Seattle, Washington 98105

INSTRUCTIONS: Please respond to the following questions.

-
- | | | | |
|----|---|-----------|----------------|
| 1. | Does your organization have written policy statements regarding the selection and/or evaluation of personnel? | YES
NO | _____
_____ |
| 2. | Does your organization have written procedural statements regarding the selection and/or evaluation of personnel? | YES
NO | _____
_____ |
-
3. If "NO" to both Questions 1 and 2 above, please ignore Questions 3-10 and answer Questions 11, 12, 13.
4. If "YES" to Questions 1 or 2 above, we would appreciate receiving copies of those statements. (Statements will be treated as strictly confidential, and returned or destroyed if you wish.)
- statements attached _____
under separate cover _____
- | | | | |
|----|--|-----------|----------------|
| 5. | Do the statements in Questions 1 or 2 above describe new or anticipated procedures in the selection and evaluation of personnel? | YES
NO | _____
_____ |
|----|--|-----------|----------------|
6. If "NO" to Question 5, we would appreciate receiving copies of statements describing those new or anticipated procedures. (Statements will be treated as strictly confidential, and returned or destroyed if you wish.)
- statements attached _____
under separate cover _____
- | | | | |
|----|--|-----------|----------------|
| 7. | Do the statements in Questions 1 or 2 describe anticipated revisions in the selection and evaluation of personnel? | YES
NO | _____
_____ |
|----|--|-----------|----------------|
8. If "NO" to Question 7, we would appreciate receiving copies of statements describing those revisions. (Statements will be treated as strictly confidential, and returned or destroyed if you wish.)
- statements attached _____
under separate cover _____
- | | | | |
|----|---|-----------|----------------|
| 9. | Do the statements in Questions 1 or 2 indicate which selection and evaluation procedures are most beneficial or useful? | YES
NO | _____
_____ |
|----|---|-----------|----------------|

10. If "NO" to Question 9, we would appreciate it if you would describe below which procedures are most useful or beneficial.
11. Have you recently completed (or are you presently engaged in) a research project concerned with either selection or evaluation of employees? YES ☐
NO ☐
12. If "YES" to Question 11, we would appreciate receiving copies of statements describing the research and preliminary results, if any. (Statements will be treated as strictly confidential, and returned or destroyed if you wish.)
- statements attached ☐
under separate cover ☐
13. We would appreciate your making any comments regarding current procedures which you are using which might be applicable to selection and evaluation of teachers.

APPENDIX 2.3

Interview Form

Teacher Selection and Evaluation
Interview: Selection

Person interviewed _____ Organization _____

Conducted by _____

Time start _____ End _____ Total _____ Date _____

1. Describe how criteria for selection are developed (including job description, identification of specific behaviors desired, information used to predict.)
2. Describe how you determine employment needs.
3. Describe how you plan and conduct your recruitment program.
4. What information do you collect regarding all applicants?

_____ application	_____ transcripts
_____ credentials	_____ letters of recommendation
_____ tests	_____ telephone recommendations
_____ other (explain)	
5. Describe your interview process: how do you structure the interview, and to what extent? What is the sequence of the main appraisal interview? Is there any difference in the interview of experienced and non-experienced applicants? What questions do you find most beneficial in acquiring information on applicants?
6. Describe how you decide:
 - a) which applicants are best qualified (rank ordering)
 - b) when to make an offer (or delay, or reject)
7. Describe how you check the process of selection to determine how successful it is.
8. Describe how you train the people involved in various stages of the selection of applicants.
9. Describe how your selection procedures have affected your organization.
10. What do you consider the most unusual and/or effective aspect of your selection process?

11. If you had relatively unlimited resources, what procedures would you initiate?

Interview: Evaluation

1. Describe how the purposes of evaluation are determined.
2. Describe how criteria for evaluation are developed (including behaviors that are deemed important, their relative importance, information to be acquired, and procedures to be used for acquiring information.)
3. Describe how, and under what circumstances, information regarding performance is gathered (including any prior activities that might have occurred.)
4. Describe how the information that is collected is analyzed and interpreted. (Also describe what records are kept, and where.)
5. How is the information used? (Feedback--how? Information to others? Reports? Records?)
6. Describe what decisions are made on the basis of the information collected. (Changes to be made: for improvement of employee performance; changes of assignment; retention; promotions; release; salary adjustments; other?)
7. Describe how you train people involved in various stages of the evaluation of teachers.
8. Describe how your evaluation procedures have affected your organization.
9. What do you consider the most unusual or effective aspect of your evaluation process?
10. If you had relatively unlimited resources, what procedures would you initiate?

APPENDIX 2.4

Listing of School Districts to Which Questionnaires were Sent

- | | |
|--|--|
| <p>* Anne Arundel County Public Schools
Annapolis, Maryland</p> <p>Atlanta City Public Schools
Atlanta, Georgia</p> <p>* Aurora School District
Aurora, Colorado</p> <p>Baldwin County Public School
System
Bay Minette, Alabama</p> <p>* Baltimore City Public Schools
Baltimore, Maryland</p> <p>Baltimore County Public Schools
Towson, Maryland</p> <p>* Beaverton Public Schools
Beaverton, Oregon</p> <p>* Bellevue Public Schools
Bellevue, Washington</p> <p>* Berkeley City Unified Schools
Berkeley, California</p> <p>** Beverly Hills Unified Schools
Beverly Hills, California</p> <p>* Birmingham City Public Schools
Birmingham, Michigan</p> <p>* Broward County Public School
System
Ft. Lauderdale, Florida</p> <p>* Camden City Public Schools
Camden, New Jersey</p> | <p>* Chester City Public School
System
Chester, Pennsylvania</p> <p>Chicago City Public Schools
Chicago, Illinois</p> <p>** Chula Vista City Elementary Schools
Chula Vista, California</p> <p>* Clay County Public School System
Green Cove Springs, Florida</p> <p>* Clayton Public School System
Clayton, Missouri</p> <p>* Cleveland Public School System
Cleveland, Ohio</p> <p>* Cobb County Public Schools
Marietta, Georgia</p> <p>** Columbus Public School System
Columbus, Ohio</p> <p>Conroe Independent School District
Conroe, Texas</p> <p>** Cupertino Union Elementary
Schools
Cupertino, California</p> <p>Dallas Independent School District
Dallas, Texas</p> <p>** David Douglas Public Schools #40
Portland, Oregon</p> <p>* Dearborn City Public Schools
Dearborn, Michigan</p> |
|--|--|

* Questionnaire returned

** Interviewed

- * DeKalb County Public Schools
Decatur, Georgia
- ** Denver Public School System
Denver, Colorado
- Detroit City Public Schools
Detroit, Michigan
- District of Columbia Public
Schools
Washington, D. C.
- Duval County Public School System
Jacksonville, Florida
- * Englewood School System
Englewood, Colorado
- * Euclid Public School System
Euclid, Ohio
- ** Evanston Public School System
Evanston, Illinois
- * Fairfax County Public School
System
Fairfax, Virginia
- Fulton County Public Schools
Atlanta, Georgia
- Glendale Unified Public Schools
Glendale, California
- * Grand Prairie Independent
School District
Grant Prairie, Texas
- * Grosse Pointe Public School
System
Grosse Pointe, Michigan
- * Hawaii Public School System
Honolulu, Hawaii
- * Highland Park Independent
School District
Dallas, Texas
- Highland Park Public School
District #107-8 and Township
High School
Highland Park, Illinois
- * Highline Public School System
Seattle, Washington
- * Houston Independent School
District
Houston, Texas
- * Howard County Public Schools
Clarksville, Maryland
- ** Indianapolis City Public Schools
Indianapolis, Indiana
- ** Jefferson County School District
Lakewood, Colorado
- ** Jefferson Parish Public Schools
Gretna, Louisiana
- Ladue Public School System
Ladue, Missouri
- ** Lake Washington Public Schools
Kirkland, Washington
- ** Los Angeles Unified Schools
Los Angeles, California
- ** Memphis City Public Schools
Memphis, Tennessee
- * Mesquite Independent School
District
Mesquite, Texas
- Miami Public School System
Miami, Florida
- ** Midland Public Schools
Midland, Michigan
- * Milwaukee Public School System
Milwaukee, Wisconsin

- ** Minneapolis Special Public School System
Minneapolis, Minnesota
- ** Minnetonka Public Schools
Minnetonka, Minnesota
- * Mobile County Public School System
Mobile, Alabama
- ** Montgomery County Public Schools
Rockville, Maryland
- * Nashville Metropolitan Public Schools
Nashville, Tennessee
- Nassau County Public School System
Fernandia Beach, Florida
- National City Elementary Schools
National City, California
- * New Rochelle School System
New Rochelle, New York
- * New York City Public Schools
Brooklyn, New York
- Norristown Area Public School System
Norristown, Pennsylvania
- Oakland City Unified Schools
Oakland, California
- ** Oak Park Public Schools
Oak Park, Illinois
- ** Orleans Parish Public Schools
New Orleans, Louisiana
- * Palm Beach County Public School System
West Palm Beach, Florida
- ** Parkrose Public Schools #3
Portland, Oregon
- * Parma Public School System
Parma, Ohio
- Pasadena City Unified Schools
Pasadena, California
- * Pasadena Independent School District
Pasadena, Texas
- * Philadelphia Public School System
Philadelphia, Pennsylvania
- Plaquemines Parish Public Schools
Pointe a la Hache, Louisiana
- ** Portland Public Schools
Portland, Oregon
- Prince Georges County Public Schools
Upper Marlboro, Maryland
- * Racine County Unified School District #1
Racine, Wisconsin
- * Renton School District #403
Renton, Washington
- ** St. Bernard Parish Public Schools
Chalmette, Louisiana
- * St. Johns County Public School System
St. Augustine, Florida
- * St. Louis City Public School System
St. Louis, Missouri
- ** St. Paul Public Schools
St. Paul, Minnesota
- * San Diego City Unified Schools
San Diego, California

** San Francisco Unified School District
San Francisco, California

** Santa Monica Unified District
Santa Monica, California

* Scarsdale Public Schools
Scarsdale, New York

** Seattle Public Schools
Seattle, Washington

* Shaker Heights Public School System
Shaker Heights, Ohio

** Shelby County Independent School District
Memphis, Tennessee

* Shoreline Public School System
Seattle, Washington

* Shorewood Public School System
Shorewood, Wisconsin

** Spring Valley Elementary Schools
La Mesa, California

* Texas City Independent School District
Texas City, Texas

University City Public School System
St. Louis, Missouri

* Upper Arlington Public School System
Columbus, Ohio

Warren Township Metropolitan School District
Indianapolis, Indiana

* Washington Township Schools
Indianapolis, Indiana

** Waterford Township Public School System
Pontiac, Michigan

Wauwatosa Public School System
Wauwatosa, Wisconsin

* Wayne Township Public School System
Indianapolis, Indiana

Webster Groves Public School System
Webster Groves, Missouri

** White Plains Public Schools
White Plains, New York

* Whitehall Public School System
Whitehall, Ohio

* Worthington Public School System
Worthington, Ohio

APPENDIX 2.5

Listing of Businesses to Which Questionnaires were Sent

Aluminum Co. of America Pittsburgh, Pa.	Burlington Industries Greensboro, N. C.
American Can Co. New York, N. Y.	Campbell Soup Co. Camden, N. J.
* American Cyanamid Co. Wayne, N. Y.	Cannon Mills Co. Kannapolis, N. C.
* American Motors Corp. Detroit, Mich.	Caterpillar Tractor Co. Peoria, Ill.
** A T & T New York, N. Y.	Celanese Corp. New York, N. Y.
American Tobacco Co. New York, N. Y.	* Chas. Pfizer & Co. New York, N. Y.
* Anaconda Co. New York, N. Y.	** Chevrolet Motor Div. Detroit, Mich.
Armour & Co. Chicago, Ill.	** Chrysler Corp. Detroit, Mich.
Avon Products, Inc. New York, N. Y.	Colgate-Palmolive Co. New York, N. Y.
** Battelle Memorial Institute Columbus, Ohio	Colt Industries New York, N. Y.
Bendix Corp. Detroit, Mich.	* Continental Can Co. New York, N. Y.
** Boeing Co. Seattle, Wash.	** Control Data Corp. Minneapolis, Minn.
* Boise Cascade Corp. Boise, Ida.	Crown Cork and Seal Co. Philadelphia, Pa.
Bristol-Myers Co. New York, N. Y.	* Del Monte Corp. San Francisco, Calif.
Brunswick Corp. Chicago, Ill.	Diamond International New York, N. Y.

* Questionnaire returned

** Interviewed

- Donnelley & Sons
Chicago, Ill.
- ** Dow Chemical Co.
Midland, Mich.
- * E. I. du Pont de Nemours
Wilmington, Del.
- Eastman Kodak Co.
Rochester, N. Y.
- ** Federal-Mogul Corp.
Detroit, Mich.
- Firestone Tire & Rubber
Akron, Ohio
- * Flintkote Co.
White Plains, N. Y.
- ** Ford Motors
Dearborn, Mich.
- General Electric
New York, N. Y.
- ** General Foods
White Plains, N. Y.
- * General Motors Corp.
Detroit, Mich.
- General Tel. and Elec.
New York, N. Y.
- Genesco Inc.
Nashville, Tenn.
- * Georgia-Pacific Corp.
Portland, Ore.
- * Goodyear Tire & Rubber
Akron, Ohio
- * Gulf & Western Indust.
New York, N. Y.
- Hart Schaffner & Markx
Chicago, Ill.
- ** Heath Tecna Corp.
Kent, Wash.
- * Hoerner-Waldorf
St. Paul, Minn.
- ** Honeywell
Minneapolis, Minn.
- Humble Oil and Refining Co.
Houston, Tex.
- IBM
Armonk, N. Y.
- * International Paper Co.
New York, N. Y.
- * I T & T
New York, N. Y.
- International Utilities
Toronto, Canada
- Johnson & Johnson
New Brunswick, N. J.
- Litton Industries, Inc.
Beverly Hills
- Lockheed Aircraft
Burbank, Calif.
- L T V Aerospace Corp.
Dallas, Texas
- Mattel Inc.
Hawthorne, Calif.
- * McDonnell Douglas
St. Louis, Mo.
- ** Minnesota Mining and Mfg.
St. Paul, Minn.
- Monsanto
St. Louis, Mo.
- * National Cash Register
Dayton, Ohio
- National Dairy Products
New York, N. Y.
- * National Industries, Inc.
Louisville, Ky.

- ** N. American Rockwell
El Segundo, Calif.
- * Pacific Car & Foundry
Renton, Wash.
- Pepsico, Inc.
New York, N. Y.
- * Polaroid Corp.
Cambridge, Mass.
- Proctor & Gamble
Cincinnati, Ohio
- R C A
New York, N. Y.
- * Ralston Purina Co.
St. Louis, Mo.
- * Raytheon Co.
Lexington, Mass.
- * Remington Arms Co.
Bridgeport, Conn.
- Revlon, Inc.
New York, N. Y.
- * R. J. Reynolds Tobacco
Winston-Salem, N. C.
- * Rexall Drug & Chemical
Los Angeles, Calif.
- ** Sears Roebuck
Chicago, Ill.
- * Seattle-First National Bank
Seattle, Wash.
- ** Shell Oil Co.
New York, N. Y.
- * Singer Co.
New York, New York
- Sperry Rand Co.
New York, N. Y.
- Standard Brands Inc.
New York, N. Y.
- * Standard Oil Co.
New York, N. Y.
- * State Farm
Salem, Ore.
- Swift & Co.
Chicago, Ill.
- T R W Systems
Redondo Beach, Calif.
- Tecumseh Products Co.
Tecumseh, Mich.
- ** Texas Instruments Inc.
Dallas, Texas
- Textron Inc.
Providence, R. I.
- Times Mirror Co.
Los Angeles, Calif.
- * Union Carbide Corp.
New York, N. Y.
- United Aircraft
East Hartford, Conn.
- * U. S. Plywood-Champion Papers
New York, N. Y.
- * U. S. Steel Corp.
New York, N. Y.
- W. R. Grace & Co.
New York, N. Y.
- Warner Lambert Pharmaceutical
Morris Plains, N. J.
- Weyerhaeuser Co.
Tacoma, Wash.
- Westinghouse Electric
Pittsburgh, Pa.
- ** Xerox Corp.
Rochester, N. Y.

APPENDIX 2.6

Listing of Governmental Agencies to Which Questionnaires were Sent

- | | |
|---|--|
| <p>** AEC-NASA Installation
Space Nuclear Propulsion Office
Germantown, Md.</p> <p>Air Force, Department of the
The Pentagon
Washington, D. C.</p> <p>** Army, Department of the
The Pentagon
Washington, D. C.</p> <p>** Central Intelligence
Agency
Washington, D. C.</p> <p>Civil Service Commission,
U. S.
Washington, D. C.</p> <p>Electronics Research
Center
Cambridge, Mass.</p> <p>** Federal Bureau of
Investigation
Washington, D. C.</p> <p>Jet Propulsion
Laboratory
Pasadena, Calif.</p> <p>Manned Spacecraft
Center
Houston, Texas</p> <p>NASA-Ames Research
Center
Moffett Field, Calif.</p> <p>NASA-Edwards Flight
Research Center
Edwards, Calif.</p> | <p>* NASA-Goddard Space
Flight Center
Greenbelt, Md.</p> <p>* NASA-John F. Kennedy
Space Center
Kennedy Space Center, Fla.</p> <p>NASA-Langley Research
Center
Langley Field, Va.</p> <p>* NASA-Lewis Research
Center
Cleveland, Ohio</p> <p>** NASA-George C. Marshall
Space Flight Center
Huntsville, Alabama</p> <p>* NASA-Wallops
Station
Wallops, Virginia</p> <p>National Aeronautics and
Space Administration
Washington, D. C.</p> <p>* Navy, Department of the
The Pentagon
Washington, D. C.</p> |
|---|--|

* Questionnaire returned

** Interviewed

APPENDIX 3.1

A Short Discussion of Criterion Variables

Conditions change under which individuals teach, and this affects the behavior that they exhibit. For example, the type of supervision in a given building might change drastically with a change of principals; consequently more or less assistance with certain activities might be expected. Also, the behaviors considered important might change as the student population changed. The changes in these two factors, conditions of work and nature of the student population, account for the dynamic nature of the teacher behaviors being predicted and the difficulty of obtaining long-lasting predictions. Since it is necessary to validate selection processes locally and since the criterion variables are dynamic, the validity of predictor variables should be reviewed frequently. If we consider the two dimensions of differentiation and validity, a variable might range from high to low in each dimension. If these two dimensions are dichotomized into low and high categories, then four conditions emerge:

	Validity	Differentiation
1.	high	high
2.	low	high
3.	low	low
4.	high	low

⇒ CONCLUSION

*Variables which are non-differentiating or lacking in validity may be eliminated from consideration in the selection process.
(position: research staff)*

Condition No. 1 is desirable in that it indicates relevant variables on which teachers can be measured as different. An example of this type of variable might be creativity which is observed in practice teaching activities. Condition No. 2, however, is meaningless for validating a selection procedure. For example, height might differentiate among teachers, but is probably

is irrelevant to most school system goals. It seems obvious that variables identified by Condition No. 3 are to be rejected. However, variables represented by Condition No. 4 are less easily disposed of. For example, observations of kindergarten teachers' empathy for children during practice teaching might be considered very relevant (valid) for the job, yet a group of applicants for kindergarten positions may vary only slightly on this characteristic. Therefore, this factor becomes useless for validating the selection process. In fact, if the measurement of all kindergarten applicants on this variable yields similar results, then the correlation with any other variables will approach zero and there will be no predictive value.

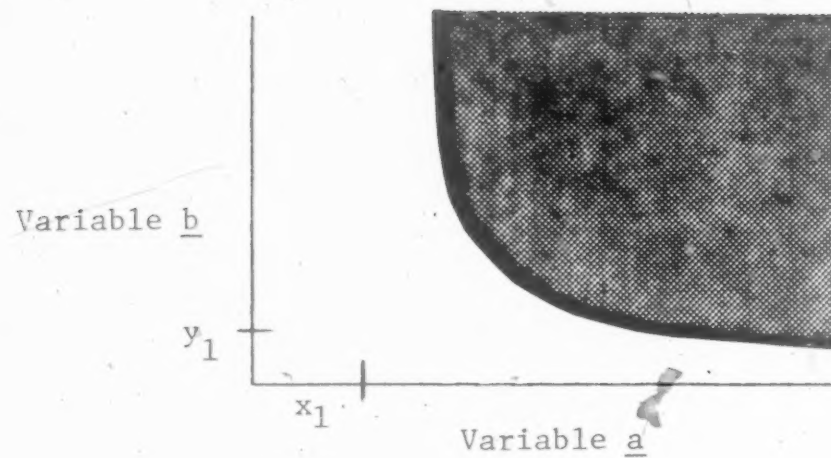
The selection of variables might proceed by first identifying variables which have evidence of being valid, checking their discrimination, and finally checking the validity of those which do discriminate.

Where multiple predictor variables are used to predict criteria, one should ascertain whether they interact with each other so that one compensates for the other. For example, does intelligence compensate for hard work or diligence or vice versa; would experience substitute for education?

Some predictor variables interact with each other in such a manner that one compensates for the other; where this occurs, individuals assessed on a number of dimensions may differ quantitatively on several dimensions and still have an overall prediction of similar utility to the organization. (position: research staff)

A complicating factor to the interaction of variables is the fact that compensation may occur only within certain ranges of the variable. For example, hard work may compensate for intelligence if a minimum level of intelligence is available. This is illustrated in the figure below where the shaded region is acceptable predicted behavior. Note that no behavior is satisfactory if variable a is slightly larger than x_1 or if variable b falls below y_1 . However, if variable a is slightly larger than x_1 , a large amount of variable b will compensate for the small amount of a. It seems obvious that

Figure A3.1. Compensatory Nature of Variables.



the use of multiple cutoff scores would now allow compensation of some abilities for others required on the job. Since assumptions regarding compensation and the use of multiple cutoffs do yield different results, it is essential to specify where compensation occurs if consistent decisions are to be made.

In addition, such compensation may occur in some positions and not in others. Therefore, it is necessary to decide which variables interact for each position that is considered to be unique.